

Florida

SPECIAL 50-PAGE
NATURAL HISTORY ISSUE

Fishing • Hunting
• Conservation •

WILDLIFE

JULY, 1959

The Florida Magazine for all Sportsmen

25 CENTS



FLORIDA WILDLIFE'S

Fishing Citation

"for that BIG ONE that DIDN'T get away"

ELIGIBILITY REQUIREMENTS

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fly, spinning, or bait-casting tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

Application for a Florida Wildlife Fishing Citation must be made within 10 days of the date fish was caught. Application must be made on the prescribed form as shown on this page. (Requests for additional forms should be addressed to: Florida Wildlife, Game & Fresh Water Fish Commission, Tallahassee, Florida.)

Citation, showing recorded data of the catch, will be mailed to the applicant upon receipt of application form that has been properly filled out and signed.

Florida Wildlife Fishing Citations are available without charge, to any and all subscribers to Florida Wildlife Magazine, and their immediate families, who catch any of the following fresh-water game fish of the prescribed size requirements:

SPECIES

LARGEMOUTH BASS

..... 8 pounds or larger

CHAIN PICKEREL

..... 4 pounds or larger

BLUEGILL (BREAM)

..... 1 1/2 pounds or larger

SHELLCRACKER

..... 2 pounds or larger

BLACK CRAPPIE

..... 2 pounds or larger

RED BREAST

..... 1 pound or larger



CUT OUT AND SAVE THIS APPLICATION BLANK

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE _____ Date _____
Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name _____ Address _____

Species of Fish _____ Weight _____ Length _____

Type of Tackle, Bait Used _____

Where Caught _____ Date _____

Catch Witnessed by _____

Registered, Weighed by _____ at _____

(Signature of Applicant)

Published monthly by the
FLORIDA GAME AND FRESH WATER FISH COMMISSION
Tallahassee, Florida

Dedicated to the
Conservation, Restoration, Protection of Our Game And Fish

BILL HANSEN, Editor

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"BUILDING FOR CLEAN WATERS"

EXECUTIVE DIRECTOR Ernest F. Swift announces that the National Wildlife Federation has issued a new pollution control leaflet, titled "Building for Clean Waters."

The 24-page booklet, amply illustrated with charts and statistics developed by the U. S. Public Health

Service, outlines progress in water pollution control resulting from the federal sewage-treatment works construction grants program. It describes the federal-state-local teamwork which is cleaning up many surface waters in all parts of the nation.

Underscored in the booklet is the fact that the program, initiated by passage of the Federal Water Pollution Control Act of 1956, has resulted in the development of 1,337 approved projects through 1958. It also points out that almost 90 per cent of the approved projects will serve communities of less than 25,000 populations.

Reasons why a proposed plan to turn the construction grants program over to the states are detailed as: 1. few, if any, states would pick up a telephone tax even if the federal government relinquished the levy for the purpose; 2. the few states which might pick up the telephone tax levy would not earmark funds for pollution control; and 3. states cannot secure enough money from telephone tax sources to adequately finance needed construction. This construction, the new booklet points out, should be maintained at a \$575 million annual level for the next eight years if the pollution problem is to be brought under control. Measures, H. R. 3610 and S. 805, to double the present \$50 million annual construction grants authorization now are before Congress.

"The price of one package of cigarettes (25¢) per person per month is the average cost of clean waters," the Federation booklet advises.

"Only you, Mr. and Mrs. Citizen, can clean up America's polluted streams, lakes and beaches. You can do it by supporting strong pollution control laws, vigorous abatement programs, and the appropriations needed to make them work," the booklet concludes. ●

Musket Shoot and Treasure Hunt

FIESTA OF FIVE FLAGS

IF DANIEL BOONE or Davy Crockett were alive today, you can bet they would attend the 10th annual Fiesta of Five Flags at Pensacola, Florida.

Among the many attractions scheduled for the three-month celebration of Pensacola's Quadricentennial is a Muzzle Loaders Contest—the first in these parts for nearly a hundred years.

Strangely enough there are still people around town cleaning their muskets. The National Muzzle Loaders Rifle Association boasts six thousand members armed with either the early flintlock or caplock style muzzle loaded weapons.

The July 18-19 Pensacola meet is one of three Fiesta events sponsored by the Pensacola Rifle and Pistol Club, according to Brown Rainwater, president. In addition to the Muzzle Loader's Contest the club is sponsoring a Pistol Championship Match May 16-17 and a Rifle Tournament June 13-14.

The Muzzle Loaders' Contest promises to be the most colorful event with participants dressed in frontier type buckskin jackets and coonskin caps carrying powder horns and a pocket full of homemade rifle balls. Flintlock pistols, muskets, caplock rifles and other antique weapons will be fired by contestants against crows, chuck and standard type targets, from 25 and 50 yards.

Rainwater said most of the arms used will be rejuvenated originals

but a few may be new weapons manufactured in European countries with colonies which outlaw the faster loading and automatic type guns.

Loading one of these old pieces requires the measuring and insertion of black powder propellant, hammering the patch clad lead ball into the end of the muzzle, then ramrodding the spit-soaked combination home before cocking, filling the igniter, aiming and pulling the trigger! After hammering the patch clad ball into the muzzle, most enthusiasts will pull out a razor or knife and whack off the strands of cloth hanging out the barrel. How Davy Crockett ever shot a bear when he was only three has never been answered.

Other Fiesta-Quadri attractions during the week of the Muzzle Loaders Contest include treasure hunts both on foot and in outboard motor boats. Many of the treasure hunts are held each year near Pensacola Beach on Santa Rosa Island where this year the Florida Quadricentennial Commission has erected a gigantic exposition plus a 1743 replica of the old City of Pensacola. ●

THE COVER

Although the diet of the Horned Owl consists mainly of members of the rodent family and other small animals, — the 'hooter' will sometimes supplement its diet with a reptile or two. See this month's 'Scrapbook' page on the inside back cover.

Cover Photo by Bruce Mozart
Ross Allen's Reptile Institute
Florida's Silver Springs

The Doodlebug School

By A. D. ALDRICH, Director
Game and Fresh Water Fish Commission

THE ELDERLY RETIRED gentleman carried a box of sandy dirt into a small class-room. He was there by pre-arranged appointment with the teacher.

"My children," he said with a smile that took in every child, "this is The Doodlebug School. I have here a box of dirt. And here a doodlebug. An insect also known as an ant-lion."

Then, in not more than four square inches of dirt, the elderly gentleman taught the lessons of natural resource conservation, and the intricate balances and checks of nature. All he used was sandy dirt and one insect, but he held them up as a mirror of life.

For conservation, you see, can best be taught in your own backyard, by studying the wonderful lessons of living found in an anthill, or a wasp's nest, or a butterfly-cocoon.

Really, you don't need movies, or books, or color-slides, or lectures, or exhibits, although all these aids are fine when used in the right place and at the right time.

But nature is all around us, and true natural resource conservation may be studied everywhere. And you, as an adult, can teach your child, or a neighbor's child, true conservation in your own back-yard. All you need is a dictionary, or a borrowed library book, plus your own imagination and patience. You, and your child, will then find the wonderful world inside a single blade of grass, the marvelous mechanics of a tiny spider's life-cycle, the song and life of a tree-frog, the dynamic energies of a grasshopper.

As a person who has spent many hours of my spare time actively working with Boy Scout groups, while spending many years of my life as a professional conservation worker, I have had the opportunity of seeing the truth of these things. A child's mind unfolds like a flower, and a child is best taught conserva-

tion by making conservation his way of life.

In Florida, our best thinking developed by our conservation educators is that conservation should be woven into all school subjects. For best effect, conservation cannot be taught entirely as a separate school subject. You can't rightfully teach conservation in a fifty-minute class twice a week. But you can teach it continuously by weaving the idea of good conservation into all subjects.

Yes, conservation can be woven into the geography lesson, the English class, physical education periods, and even the school cafeteria.

What we want to do is have conservation applied to practical living. We want to teach our children the wisdom of conserving household electricity and school clothing. The profits of wise utilization of the food and soft drinks in our kitchen refrigerators. The facts of the live-and-let-live rule. The necessity for preserving the pennies in our bank account.

Then we want to teach the effects of mankind and his civilization upon the wild animals and insects. Then we must use the lessons from the past that show what happens if we do not wisely conserve, preserve and utilize our natural resources.

We want to teach, in other words, the philosophy inherent in the Conservation Pledge:

"I give my pledge as an American to save and faithfully to defend from waste the natural resources of my country—its soil and minerals, its forests, waters, and wildlife."

Part of our trouble in conservation education is that we, who are paid conservation agency employees, get to thinking that conservation is a special thing. Since conservation is both our belief and our method of making a living, we become so involved with it that at times we tend to an attempt to ram conservation down everyone's throat—like a dose



of medicine that's "good for you."

Well, conservation is not a dose of goodie-goodies. Conservation is an essential and valuable social philosophy that should be blended into our method of thinking and our way of acting and living.

Like the word democracy, the word conservation is hard to define. You, and I, know what democracy means. We know inside our heart and brain. Democracy lives within us. And we would be hard put to accurately define democracy in a few well-chosen words. I doubt if anyone of us could so define democracy—because it is an almost indefinable philosophy of living.

So, too, the word conservation. It is a way of living and thinking. We cannot teach conservation as a separate subject. But we should teach it as a philosophy of life and thought and action.

We should open our children's minds to the fact that nature lives all about us, and that we, ourselves, are a part of nature.

Man is a product of his environment. He cannot live a balanced life without the influence and guidance of his natural surroundings. Fullness of living comes through association with and understanding of the living world about him. Man justifies his existence only to the extent to which he utilizes and conserves the natural resources in his keeping.

What we need is more Doodlebug Schooling. ●



By DENVER STE. CLAIRE

IT'S CAMPING TIME AND all over the country boys and girls of good health and rugged stock are learning and reviewing how to live out of doors like their early ancestors did not too long ago. From learning how to tie ropes to recognizing the different kinds of soil and the names of song birds singing their praise to God, these young people are enriching their lives with experiences that will long be remembered when camping will be but a memory.

Camping will afford pleasant experiences no matter how primitive or rough they seem at the time. If you are the out-doors type, you will always have an opportunity to tell about the "one that got away" or how you got along a week on two days rations.

In today's hurry and haste there is a definite need for people, regardless of age, to "get away from it all." Camping means out of doors and with it the tranquility that only nature can give. With this type of therapy there need not be a prescription for tranquilizing drugs. On a national scale, experts predict that accommodations will have to be constructed to take care of the additional 4,000,000 youngsters by 1970. By 1975, in our state of Florida, our population is predicted to rise to approximately 7,000,000. Here again the percentage of youngsters will double and again the enrollment for camping will increase. Present day figures indicate that there are about 70 camps in Florida. This figure is to service a population of almost 4,500,000 people in Florida.

If our young people are to have a continuing education in the outdoors with nature and conservation, a tremendous program of building

and programing lays ahead for all of us. Let us see to it that our children now, and in the future, have access to camping with all its wonderful experiences. Let us pass on to campers the heritage of the out-of-doors and the pioneering experiences of the woods and all its surroundings.

Girls Camping

Our first two-week period for girls was inaugurated this camping season. Their arrival time was June 28 and they will be with us for the first eleven days of this month, July. Ages for attending this camp are nine (9) through sixteen (16) years.

Other Camping Dates

July 12-18 is a one-week camping period for boys, ages 8-12.

July 19-25 another week and the same age.

July 26-August 8 is a two-week period for boys also between the ages of 8-12.

There is but one week set aside for older boys in the age group of 13 through 16 this year. Date of the camping period is August 9-15.

Final week for younger boys again is August 16-22.

Send A Boy to Camp

If your boys are all grown and not around the home any more don't forget that there are many youngsters who would love to go to camp but are unable to do so because Dad and Mom can't arrange it. You can help light up a boys face by selecting a boy in your own community and sending him to camp or send a check made out to the Youth Conservation Camp instructing us to send a deserving boy to camp. We have many requests written by mothers and youngsters ask-

ing if something could be done for them. Here is a chance to fill your heart with happiness and to make a young boy the happiest ever. **WON'T YOU SEND A BOY TO CAMP—THIS YEAR?**

Directory

We have just completed the 1959-60 Directory of the Youth Conservation Clubs in Florida. We have been working on this directory since last January. If, when you receive your copy, there has been a change, won't you please send the correction along to us by August 15. If we get all the necessary changes before that time, we can be listed in the Game and Fresh Water Fish Commission's Florida Directory of Sportsmen and Conservation Clubs. How about it. Copies have been sent to all advisors and Information and Education personnel. Send us the new officers for the year and any other important information.

Camping Applications

If you have not sent your application for reservation at camp this year for your particular camping week, please do so now. Our quota is being reached for some of these camping weeks already. Don't wait. Do it now.

Our program this year is well rounded and will give everyone a chance to participate in something new at camp. Nature and Conservation will include Mammals, Reptiles, Birds, and Insects. There will be projects for those who show **LEADERSHIP**.

Other areas to be included in the program are these:

- Survival and Shelters
- Care and Use of Tools used in Camping
- Use of rope and lashing
- Use of fire and safety
- Cooking for beginners
- Cooking for advanced campers
- Overnight camping away from camp
- Hiking for study of birds, tracking, etc.
- Use of rifle and its safety factors

(Continued on Page 43)

FISH BY THE PIG

THE BLAZING AUGUST SUN made a bottom-scorching hot plate of the seats in the boat. It was a mean day to be on the head waters of the St. Johns River. The wise Florida Crackers had left the river early in the day. A less wise tourist, bent on bass, can't fish in such a leisurely fashion—holidays are too short, so I stayed with it. Before noon I was alone except for a brahma bull and a half-dozen languid cows lolling belly-deep in a sluggish slough.

Bream gave my bass bugs a fit. The bass ignored me. I fished the river from Idle Hour camp, east of Orlando, from the bridge on Highway 50, to the entrance of Cane Lake. I plied the same stretch again, and then another time. As the day wore on, my fly rod seemed to change from a delicate and lightweight instrument to the heavy feel of a baseball bat. A fisherman is a fool when he sallies forth with one fish in mind—one method of killing him. I am such a fisherman.

The sun burned the deep blue out of the sky. It looked washed out and pale—like me. Heat waves simmered over the flat pasture lands in mid-afternoon. My paddle stirred the warm copper colored surface water. A turtle rolled off a log and headed for the bottom, too lazy to move out of the punishing sun, I suspect he was glad to be disturbed. One more try and I had to get back to the motel. I yanked the outboard into action, rode a mile or so upstream (south, since the St. Johns flows north), cut the motor for the float north. In the head-waters you can float the middle and hit either bank with a bug.

Now and then a dinner plate bream smacked my bass bug. I hung a dozen and put them back. I have yet to meet the man who can eat more succulent bream, but I had marked this day on my vacation calendar. This was "BASS DAY." Big blacks with ebony backs and copper bottoms. They *must* be here—I'd netted dozens of them only last year. Not one came to my net today.

Thunderheads piled up on the horizon. A cloud no bigger than an acre pulled away from a black mass and drenched me. In a minute it was gone. I bailed the boat with a beer can and prepared to give it all up. Job had tribulations but so far as I know he was not a bass fisherman. The sun cooled a mite and lingered low in the west.

I was about ready to disjoint my fly rod when I heard it . . . a sporadic crunching like a cranky rock crusher. My view was cut off by a bend in the river. The current carried me around the curve. There she was . . . a mammoth sow hog, 4 feet tall and lean as a 1929 depression pig. Her nose was buried in 18 inches of water as she rooted out the mussels on the river bottom. When she found a particularly juicy bivalve she dropped on her haunches and crunched with the

By
VAL
STEPHENS



same satisfaction a man gets from the claw of a choice Maine lobster.

The hog eyed me with suspicion. Her ears jumped to attention and she debated my purpose in invading her domain. The mussels won out and she continued rooting and munching in the shallow cove. In the midst of hyacinth and water lilies she could have been a pre-historic amphibian. I wondered what her hams would taste like. Scallops, maybe. She ignored me and concentrated on finishing her supper. Broken shells and juice streamed from the corners of her mouth.

I dropped the bag bug off to her right. Her ears hopped back to rigid alert and she tried to decide whether to finish her shellfish, eat the bass bug, or charge me. Again the mussels won out. She dipped her nose ears-deep in the water. A belligerent bass lunged my bug in anger. My reflexes, slowed by a dull day of inactivity, were dull as a garden rake. The bass bug floated back to the surface and I set the hook in empty air.

The pain left my aching back. Strength flowed back into my dehydrated, weary body. Only my closest and most trusting friends believe it, but I slammed the barb to 4 blacks in the vicinity of that hog—and in 15 minutes. The best was a solid four pounds.

Why? . . . Maybe because the juices and freshly busted shells of the mussels permeated the area with fish provoking scent? I don't know, but next time I'm down there the bass will either cooperate—or I'm gonna look for that pig. ●



By EDMUND McLAURIN

SOME SHOOTERS SAY they are very conscious of recoil when they shoot their guns; they want to know its cause and cure.

There are a number of possible reasons for existing recoil. First is the unchangeable influencing factor of Newton's law, "For every action there must be an equal or opposite reaction." This law finds a working example every time a firearm is fired. Gases generated by the rapid burning of the powder charge exert a forward force that pushes the projectile out of the barrel. By so doing, an equal force is exerted in the opposite direction, and it is some of this developed recoil that the shooter feels a fraction of a second after each shot. This is Newton's law working in recognizable form. Many modern autoloaders take advantage of it to operate their mechanisms after the first shot is fired.

But there are other — usually, more contributory — reasons why some shooters are so affected by recoil that they tend to flinch, close their eyes at the moment of firing, or jerk their faces away from the gunstock or gunbutt from shoulder simultaneously with their action of pulling the trigger.

They may be attempting to use bigger guns than they are physically capable of firing for several shots with comfort and confidence.

For example, there is considerable difference between the recoil of a rifle of a .30-06 caliber and another of identical model and weight but bored to chamber the rimmed .30-30 cartridge. Likewise, a .257 will kick less than a .270.

Also, the lighter the firearm in total weight, the more likely will

developed recoil be noticeable. Bullet weight and overall barrel length cause noticeable changes in felt recoil, too, even in rifles of the same caliber . . .

Further, individual sensitivity to recoil is considerably influenced by such things as gun fit, shape of gunstock and fore-end, the way the weapon is held and fired, whether or not the shooter is gun conscious or target conscious, apprehension of anticipated gun-kick, and confidence in gun and shooting technique. Least likely to notice fully developed gun recoil are those shooters who use guns that fit perfectly, who are primarily target conscious, who shoot with both eyes open and from the shoulder that corresponds with their "master" or dominant eye, and who hold their guns firmly but without any attempt to freeze gun and self into tense statues of rigidity.

A good reason why some shooters get punched in the face just about



If you are bothered by recoil to the extent you flinch from the sound and fury, you may be overgunned. There is considerable difference between the recoil of a rifle of .30-06 caliber and an identical model bored to chamber the rimmed .30-30 cartridge.



every time they fire a hard-recoiling gun is that they do not snuggle their cheek firmly against the supporting comb of the gunstock, usually because they are afraid of the gun's recoil even before they take aim. When fired with cheek only lightly touching the gunstock, the big-bore rifle or shotgun comes back as it recoils, but the shooter's face does not, and the firer may get smacked in the face or have his shooting glasses broken by the gun's recoiling bolt, solid breech or scope sight. However, when the shooter firmly presses his cheek to the comb of the stock, his face will remain in position when the gun bounces back from recoil and the two will recoil as one. That is why — aside from serious misfit in gunstock dimensions — one shooter may fire a big-bore gun and never be bothered with recoil, while another will be jarred to the roots of his wisdom teeth, if not actually bruised. Quite logically, a properly shaped gunstock, a face-supporting comb and a rubber recoil pad will do much to reduce any consciousness and fear of recoil by teaming up gun and shooter and giving the latter confidence in his teammate.

As for fear created by the noise a gun makes when it is fired, there is little a shooter can do to eliminate this objectionable phase of firing, except to plug his ears with cotton or specially-designed ear plugs, or change to a weapon that does not give such a pronounced report. Often a longer barrel will seem to reduce noise by putting the muzzle blast farther from the shooter's ears. It is surprising how two inches of added barrel length will seem to reduce the sound of a shot.

Through logical application of

remediable measures, the handicap imposed by consciousness of recoil, can often be overcome. It must be overcome if consistent accuracy is one's goal.

That Extra Rifle

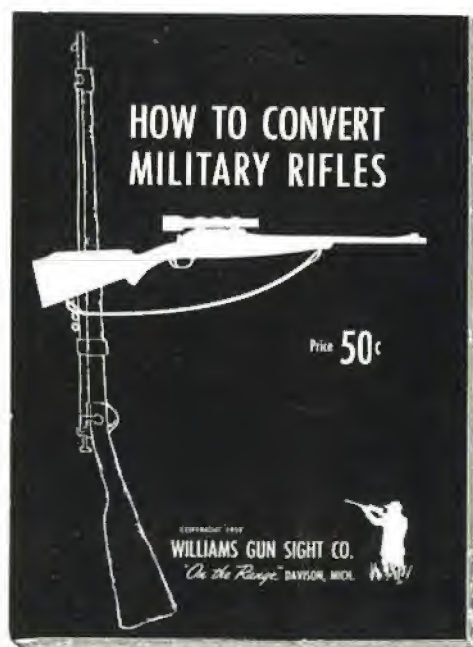
As nations of the world continue to place more emphasis and value on fire-power by the foot soldier rather than the Sergeant York style of sharpshooting, numerous military rifle models are being declared out-moded.

At the present time, many obsolete or semi-obsolete — but otherwise fine — military rifles are being sold by countries for whatever they may bring on the open market. Many American firms are importing these guns for re-sale. Practically every gun subject magazine now carries at least one advertisement offering a variety of surplus military rifles at attractive prices.

While some advertised offerings can be classified as "war time junk," still, some very fine guns are being retailed to sportsmen by American importers for a fraction of their original cost. When sold by a reliable firm, on an inspection-upon-customer-satisfaction basis, some of the listings make it possible for the average sportsman to acquire a good military rifle and convert it into a fine big-game rifle at low cost.

For example, such military actions as the Springfield 1903, Enfield Model 1917, Mauser, British SMLE (Short Magazine Lee-Enfield), the American Krag and the Norwegian Krag can be converted into excellent hunting rifles. The first named two have long been popular among professional gunsmiths for conversion into sporting arms . . .

Only last week, Boyd Williams, of Williams Gun Sight Company, Davison, Michigan, wrote this Gun Editor on technical matters and chanced to mention his firm's fortunate acquisition of a quantity of American-made .30-06 caliber Enfield rifles in practically mint condition.) Perhaps he will still have a few left by the time you read this text; worth investigating, any-



With many surplus military rifle actions available at low cost, there is a lot of interest in do-it-yourself gun remodeling. This new instruction booklet will prove a practical aid to those wanting to convert a military gun into a sporter.

way.) The Williams family, long known in the firearms accessories supply field, will do conversion work for shooters who do not wish to tackle jobs themselves . . .

Heretofore, most shooters have had to pass up the idea of personally converting a military action into a sporting rifle, because of lacking the skill necessary to do the required re-stocking and the attendant gunsmithing. Availability of ready-made component parts, of plastic bedding material, almost automatic gunsmithing jigs and tools and easy-to-install sights has changed the picture altogether. Now it is possible for even an amateur to do the alteration work needed to make a military rifle into a sporting firearm.

By using ready-made components and/or tools, and by following furnished instructions, almost anyone of us can do a professional-looking job. As proof, let's consider some typical conversion operations . . .

In the case of the conversion of the Model 1917 Enfield, for example, it is customary to file or grind off the protective ears housing the rear sight and to replace the military rear sight with one of sporting type.

In the past, this job also involved refinishing of the area worked on. Now, one can attach a ready-made peep sight or scope mount with a screw-on base, completely hiding the filing or grinding job.

Bedding of rifle action in gunstock is another work phase that has been made easier for the amateur. No longer need he work to very close, professional gunsmithing tolerances. Plastic or "glass" bedding compound has changed all that. Mixed to proper consistency and smeared in a gunstock's barrel channel, tang recess and other contact points, the plastic bedding compound eliminates the necessity of being absolutely perfect in gunsmithing skill.

Where desired, original military trigger assemblies can be discarded and complete units of the Dayton-Traister type installed in a matter of minutes.

Similarly, cartridge loading mechanisms come ready-made; Dayton-Traister makes one for the military Enfield rifle. For \$1.15, it converts the rifle's original side-feeding of cartridges to straight-line feeding.

Ordinarily, the described conversions would entail prolonged gunsmithing work on the part of an amateur.

One of the most practical and encouraging aids to the shooter who wants to convert a military rifle into a sporter is "The Williams Military Conversion Booklet," a new volume of detailed, illustrated instructions prepared especially for the amateur. It shows the various military service rifles as well as their sporterized versions, describes how to remove military accessories and install those of more practical value to the hunter. It explains how to install sights and cut down a military stock or substitute a ready-made. The book is most complete in incorporated information; more than five full letter-size pages alone are devoted to converting the popular Enfield action. It is not a reprint but an entirely new text, created especially to fill a current need. Price is 50¢—from Williams Gun Sight Company, Davison, Michigan. ●



A VACATION should be more than a respite from accustomed labors. Webster defines a vacation as an intermission or rest. Perhaps holiday would be a better word to use. Holiday is generally taken to indicate a time of recreation, fun, the excitement of doing the unusual.

Pity the poor fisherman who must paint his house or perform other unaccustomed labors on his vacation. Perhaps he does so from sheer necessity, as has been my sad fate on several occasions. This column is not for such as he. Rather, I am hoping to be of assistance to the angler-vacationist who wants to make a holiday of his vacation and has the opportunity to do so.

I believe the best holiday is one that not only provides fun and relaxation but does so in a manner far removed from ordinary habits. This magazine deals in *fresh-water fishing*. Our readers are sweet-water anglers, who can use the pages of this publication as a reference guide to the best to be found in Florida's fresh water. Unfortunately, similar information about Florida's salt-water fishing is not available. Here, then, are a few suggestions that may interest fresh-water, sports fishermen looking for a holiday on salt water.

Everglades National Park

At the southernmost tip of peninsular Florida lies 1,400,000 acres in a water wilderness park that is the answer to a vacationing angler's fondest dreams. Flamingo and Cape Sable have always had the richly deserved reputation of being the absolute tops in light tackle, salt-water angling.

Back before the war, when I first fished these waters, a Flamingo fishing trip was a pretty rugged deal. In

By **CHUCK SCHILLING**

those days, if the bugs didn't get you, rain, marl, and the old humpbacked bridge would. The country was forbidding, the natives unfriendly, access almost impossible, and accommodations nonexistent.

An Act of Congress in 1947 marked the beginning of the end of Flamingo and Cape Sable as a commercial fishing stronghold. Today, the Everglades National Park is dedicated and extremely well-equipped to serve the vacation-minded public.

Hard surfaced roads have now completely replaced the old marl pits. Stilt-legged, fishermen's shacks have vanished and been replaced by air-conditioned motels, modern restaurants, marinas, hoists, launching ramps, sight-seeing boats, and nature trails. Every possible service has been provided for the visiting angler.

If you would like more detailed information about all this, write to



Off Content Key, the fish run big—180 pound jewfish are not unusual. This one took a mullet head on an 8-0 hook, on 40-lb. mono.



the Everglades Park Company, 3660 Coral Way, Miami 45, Florida. Ask for the free, color brochure, "Everglades National Park."

The Florida Keys

Certainly no Florida sports fisherman should reach voting age without sampling the Florida Keys. This string of islands is just as much a Florida attraction as Silver Springs, Miami Beach, or Cypress Gardens. I once wrote a magazine yarn entitled, "The Florida Keys Are True." I was attempting to dispel the dreamlike fog these islands seem to generate in the minds of potential visitors. I doubt if I succeeded.

Let me make one thing clear. Any Florida, fresh-water angler can take his regular fishing equipment, just as it is, and do fine fishing in the Keys. He won't be ideally armed, but then who is? One word of caution—wash everything and oil it after each using.

The Keys have hundreds of free information centers anxious to oblige with the latest, up to the minute service. Just ask at any fishing camp or tackle shop. I couldn't possibly list all the opportunities the Keys have to offer, but here are a few samples that are among the best.

If you want to try for bonefish (and who doesn't?) make a stop at Mayo's Fish Camp on Key Largo. Denny Mayo will rent you a boat or motor or let you launch your own outfit. He'll offer detailed advice on where to go, what to use, will sell you tackle and bait. For my money,

it's the best and easiest bonefishing in the Keys.

At Islamorada, Cecil Greene at Greene's Acres or Jerry Ellis at Holiday House will be glad to supply information on local conditions and opportunities. At Marathon, Johnny Brantner at Ye Ole Feshin' Hole is a top authority on tarpon, while Jack Miller at Miller's Tackle Shop has a wide knowledge of the lower Keys. Either will welcome your questions.

George DeBoer at the Marina at Key Colony Beach can mark your maps or charts for good fishing spots offshore in the Gulf Stream or on nearby flats. Don't pass up a chance to sample the luxury accommodations at Key Colony Beach Motels, whose rates go down to rock-bottom in the summertime. This one is a 4-star feature.

Big Pine and Cudjoe

Farther down on the Keys is Big Pine Key, home of the Key Deer, where accommodations are available at Big Pine Inn Hotel and Vista Linda Motel on the water front. These both stay open all summer at reduced rates. Both have dining rooms and serve delicious meals. Vista Linda is brand-new, air-conditioned, has a boat basin and fresh-water swimming pool. This is 30 minutes by outboard from the world-famous waters of Content and Racoon Keys.

I stay with Tom Gordon at Vista Linda but dock my boat at Tar-Bone-Cuda Lodge down on Cudjoe Key. Eric Jacques is the owner here, and he offers a unique service to vacationing anglers. Tar-Bone-Cuda has outboard powered houseboats for rent. These are safe, seaworthy, roomy boats offered at reasonable rates. They will accommodate four to six persons overnight, have bunks, galleys, heads, ice storage, etc. A party on one of these boats can move around as they like and spend the night out among the Keys in sheltered water and close to famous fishing spots. This is in the Tarpon Belly, Riding, Sawyer, and Crane Key area, and while these grounds are only eight or 10 miles gulfward from the Overseas High-



A small shark puts up a surprisingly good fight. I took this one just off Tarpon Belly Key. I wasn't anxious to meet his big brother.

way, they are a long, long way from the bright lights of civilization.

Would you like to try a really different and unusual holiday? Then let me suggest a houseboat vacation at Cudjoe Key. You'll be perfectly safe and comfortable, can even have milk, ice, supplies, and the morning papers delivered fresh to the front deck every morning. Believe me, the papers will remain unread.

Low Cost

The Florida Keys can be as expensive as you like if you insist on top-luxury accommodations. There's no scarcity of plush outfits. On the other end of the scale is the camper with tent or trailer. The Keys have many roadside parks with available tenting or trailer space. These, also, have bathrooms, and fresh-water taps. Biggest park is at Bahia Honda Bridge, but best park for my money is at Spanish Harbor Key.

You don't even need a boat and motor to enjoy Keys' fishing. Take this bit of advice. Don't fish on any bridge that doesn't offer fishermen's catwalks. Today's traffic makes fishing from the roadways far too great a risk. Many bridges have catwalks and extensive seawalls—just right for the angler. Remember to take a couple pairs of old pants, tennis shoes, and heavy wool socks to wear while wading the shallow, salt-water flats. Bring sunglasses, big hat, and

long sleeved shirt. The sun really bears down.

Any water up to waist deep is good fishing water, especially if it's near a tide rip or inlet and is over hard sand, grassy bottom. Don't worry about sharks and barracudas. If they attacked wading flats fishermen, the population of South Florida would be cut in half. Take reasonable precautions.

Moonlight and Palm Trees

I hesitate to include this last suggestion, because it may seem strange appearing in a fishing column, altho it does concern a boat. It's possible you may have a little difficulty persuading the distaff side of the family to tag along on a Keys or Everglades Park holiday. If so, here is a wonderful compromise idea.

Miami offers the biggest vacation bargain I ever heard of. Take advantage of it by making a deal with the better half. Promise to take her on a wonderful, luxury cruise to a couple of exotic foreign countries if she will tag along with you on your fishing foray.

Here's the dope on how to do it without mortgaging the homestead. Write to Eastern Shipping Corporation, Pier 3, Miami 6, Florida. Ask for literature describing the 3-day Nassau Cruise and the 4-day Ha-

(Continued on Page 46)



This broken tube reveals worker termites traveling back and forth in the passageway. A soldier termite is shown on guard at upper left of the break.



Winged termites, right, are the 'reproductives' and usually indicate an active termite colony nearby. Often called flying ants, their body structure can be compared with the actual 'winged' ant, shown above.



It will be worth

your while to learn more about...

THOSE TERRIBLE TERMITES

By EDMUND McLAURIN

IN ORDER TO DO A first-class repair job, I'll have to jack up the sill, remove the siding and replace the damaged sections and at least three wall studs," the carpenter explained to the homeowner who had called him. "Termites have eaten out the base woodwork for a considerable distance. I can't figure the exact cost until I know the full extent of the damage."

"Well, I guess I'll have to let you go ahead and do whatever's needed," the homeowner sadly stated. "This is the second repair job I've had to make because of termites." . . .

At a regional office of one of Florida's largest firms, a pretty stenographer casually opened a drawer of her polished oak desk, only to have the drawer suddenly come apart in her hand . . . Those terrible termites again — this time a different species! . . .

The termite is an ancient insect, and one that had a place in Nature's plan of balance long before the appearance of man. Fossils found embedded in rock, amber or gum opal indicate existence of termite colonies some 55 million years ago. Some of the examined fossilized specimens have been declared practically identical to destructive subterranean species of the current age, so it is probable that termites will be with us for a long, long time.

In Nature's plan termites perform the function of

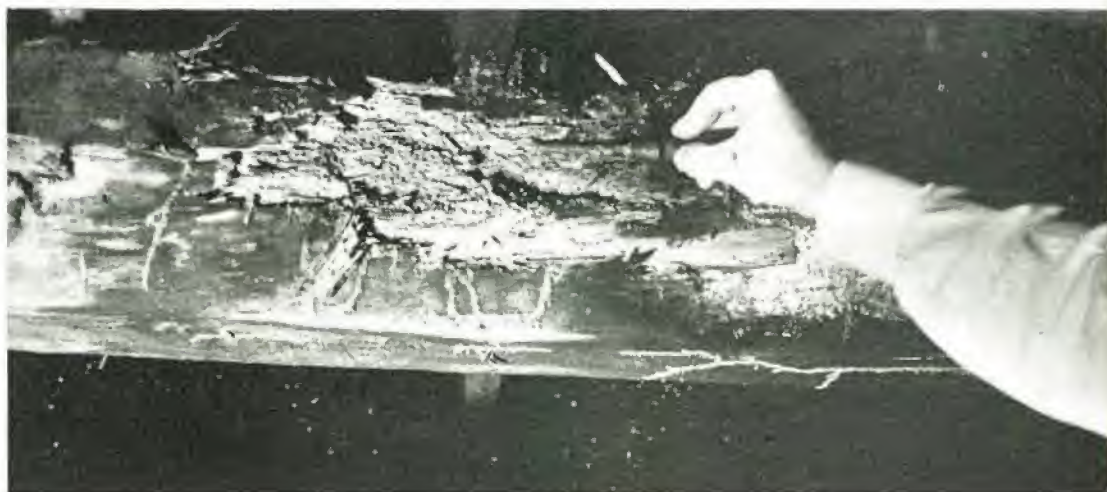
decomposing dead forest wood and returning its elements to the soil.

Man's disturbance of this balance of Nature, by clearing forests and woodlands, has forced termite species from destroyed natural habitats to the food and shelter represented by man-made structures. Within a relatively short time, the status of termites has changed from the role of beneficial scavengers to costly pests. In the United States alone, termites now do structural damage estimated at 100 million dollars annually.

Termite damage to homes and buildings will likely increase as remaining forest-lands are cleared to provide for a national population that has increased by 50 million people in less than 20 years, and which is expected to double the present figure by the year 2,000. To homeowners already plagued with termites, such simple statement of fact may well be discouraging! . . .

Contrary to popular belief, termites do not digest wood, despite their obvious dietary damage to it. They must rely on minute forms of fungi and bacteria in their intestines to render the cellulose of wood into food which they can assimilate.

Termites are highly secretive; never crawl about in the open as ants do. Often their activity will be completely hidden under a thin exterior shell of wood. Jabbing suspicious areas with an ice-pick or small screwdriver will help determine weakened wood.



Flagellate protozoa, for example, occur as a seething mass in the digestive tract of termites. These microscopic animals contain enzymes which digest the wood grains eaten by the termites, and change the cellulose into food. As they die, protozoa and fungi probably furnish the termite with the proteins necessary for growth, entomologists say. Here again is an example of Nature's balance at work. . . .

According to Dr. Thomas E. Snyder, U. S. Dept. of Agriculture entomologist and a world-recognized authority on termites, there are now about 2,000 species throughout the warmer regions of the world. In pre-historic times termites had an even wider distribution.

Forty-one species are known in the United States; every state has termite colonies. Europe is more fortunate. Entomologists say only three living species are now found on that continent, whereas at least 39 different species once lived there.

In this country, termites are more numerous in the Southern, the Southwestern and the Southern Pacific Coast regions than elsewhere.

Entomologists of the University of Florida say that at least 13 species of termites are to be found in Florida, and were here long before man. They are true natives, in that they did not migrate from another environment.

Authorities divide the species into three major groups — the subterranean, dry-wood and damp-wood termites. Ninety-five per cent of termite damage is caused by colonies of the subterranean type.

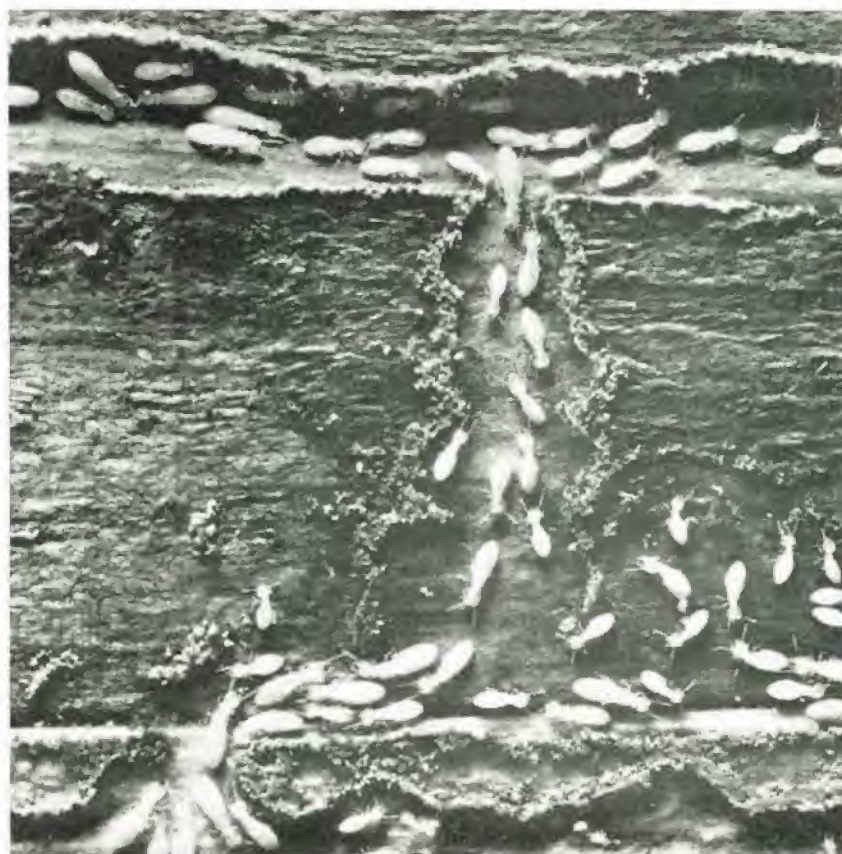
This type lives in the soil, eating wood there and any it can reach above ground level, without exposure to open air and light and without losing contact with soil moisture absolutely essential to survival. To reach new food sources, while maintaining contact with their vital moisture source, subterranean termite species build mud tubes over concrete and masonry walls, along the surfaces of pipes, fenceposts and other materi-

als in contact with wood. The invasion of a building by underground termite communities is made through these mud tunnels, constructed by workers of the colonies.

Like ants, bees and wasps, termites are highly socialized. They are true Communists in that the interests of the whole community are substituted for the interests of the individual, who has no freedom and who is expendable!

About termite colonies, entomologist John T. Creighton, of the University of Florida, says, "A termite colony is a socialized insect community composed of different kinds or castes, each different in both structure and function. The most striking castes are (1) the mated, egg-laying queen and her royal spouse; (2) the winged reproductives which shed their

(Continued on next Page)



Subterranean termites at work. This species is responsible for ninety-five percent of termite damage in Florida; does national structural damage estimated at 100 million dollars annually.

(Continued from preceding Page)

wings after mating flight and become queens and kings of new colonies; (3) the secondary reproductive castes; (4) the soldiers or guardians of the colony, and (5) the workers, who are responsible for the colony's food and water supply and for the maintenance of the nest. Mostly it is the workers which are responsible for damage to wood. Incidentally, both soldiers and workers are blind."

Dr. Snyder adds: "Within the more pretentious concentrated nests, there is an orderly arrangement of cells and galleries with a special royal chamber and nurseries in which the young are cared for. A queen may live many years, and lay millions of eggs during her lifetime. Workers and soldiers live only about a year.

"In the United States a large colony of subterranean termites may consist of only a quarter of a million individuals, since winged reproductive adults periodically leave the colony to make mating flight and establish new colonies."

Swarming or mating flights occur mostly in the early months of the year, between January and late April. Sometimes continued warm weather will influence swarming a few weeks earlier. Mating flights of subterranean species always occur in the daytime, usually in the morning and on a warm day that has been preceded by a rain. Evidently, temperature and humidity in proper ratio help set the time schedule for termite mating flights.

Flying or swarming termites do not attack wood or



Books damaged by dry-wood termites, the eager-eaters of the termite clan. Dry-wood termites obtain their moisture from the materials in which they live, and do not have to run mud tubes to ground sources.

other articles; it is the wingless descendants of these flyers that are destructive. Fortunately, very few of the termites that make mating flight survive to establish new colonies. Birds, lizards, toads, frogs, dragonflies, ants and other predators reduce their numbers drastically.

Those that do survive break or bite off their wings immediately after pairing. After a short courtship, the two individuals seek shelter in the earth and establish a new colony. First eggs laid by the mated queen hatch into workers and soldiers and are cared for by the king and queen until they can take over the domestic duties connected with enlargement and maintenance of the nest. Therefore, a sizeable termite colony does not develop quickly; several years may pass before a new colony can inflict severe damage to structures.

Swarming termites are often mistakenly referred to as "flying ants," and accidentally discovered termite nests as those of "white ants." Actually, termites and ants are not only unrelated, but are not even friendly! Seemingly, the highly intelligent ants sorely resent being described as kin to termites, for they make damaging raids on termite colonies whenever favorable opportunity presents.

Physically, and in many of their habits, there is a world of difference between the two insect species . . . Ants claim wasps as ancestors; termites are closely related to roaches . . .

Ants have constricted, hour-glass shaped waists, sharply curved antennae and (in winged form) possess two pairs of noticeably veined wings of uneven length. In contrast, the bodies of termites have broad abdomens — uniformly wormlike throughout length — and almost straight antennae. Both first and second

The invasion of a building by underground termite communities is often made through mud tunnels, constructed by the workers of the colonies, while maintaining contact with their vital moisture source.



pair of wings are of even length, transparent gray in color and extend back of the body when folded.

Ants in a colony will vary in size; in a termite colony, individuals will all be very close to same size.

Termites work close to home; they never crawl about freely in the open as foraging ants do.

Termites cannot reason; are guided by hereditary instincts—principally hunger, sex and fear. (They follow each other by means of body odor, and probably communicate by means of vibrating the body, detectable by other termites through the earth or nest material. Significantly, termites will not work in wood near constantly vibrating machinery.) Ants are well known for their ability to reason, and for applying principles of good organization and engineering to their daily work.

In one respect, however, termites show marked ability: To control temperature and humidity within a colony, the insects utilize basic principles of air conditioning. Entomologists say termites of all types practiced air conditioning long before we did.

The body of an ant, as seen by us, is actually its skeleton; the real body is inside horny, external plates. The termite, in the destructive stage, is soft-bodied, and much similar to a maggot with six legs—if maggots had such appendages. . . .

Finally, ants swarm out in winged form during a different period of the year than termites. Flights from subterranean termite colonies are rarely seen during the hot summer months.

Dry-wood termites are the eager-eaters of the termite clan, possessing voracious appetites and a wide variety of food tastes. In addition to damaging buildings, utility line poles and piled lumber, they will as readily concentrate on meals of tasty cellulose contained in furniture, wood picture frames, clocks, leather-covered books, paper, rugs, drafting boards, trunks and veneered bookcases.

Unlike the subterranean termites which eat only the soft or Spring-grain of wood, dry-wood termites eat ALL of the inside wood as they create a network of smooth runways. They will cut across the grain of the wood and excavate broad chambers, connected by tunnels about the diameter of their bodies, instead of following the straight-grain pattern of destruction so characteristic of damage done by subterranean termites. Dry-wood termites conceal points of entry by plugging entrance holes with a brownish or blackish substance, which they secrete and which soon hardens into camouflaging wood-cement.

They obtain their moisture from the materials in which they live, and do not have to run mud tubes to ground sources.

Dry-wood termite species stage their mating flights only at night and in the summer months of June



Winged-adult subterranean termites are shown emerging from parent colony to stage mating flight and establish new nests. In Florida, such flights occur mostly between January and late April, always in the daytime.

through August. They are attracted by lights, and often enter buildings through open doors, ventilating louvers and coarse-mesh window screens. Fortunately, only a few dozen individuals may make mating flights to establish new colonies. These range in length from $1/3$ to an inch, and may be light yellow to dark brown or blackish in color. Unless carried by the wind, dry-wood termites on mating flight do not travel far from their parent colony to establish their new homes.

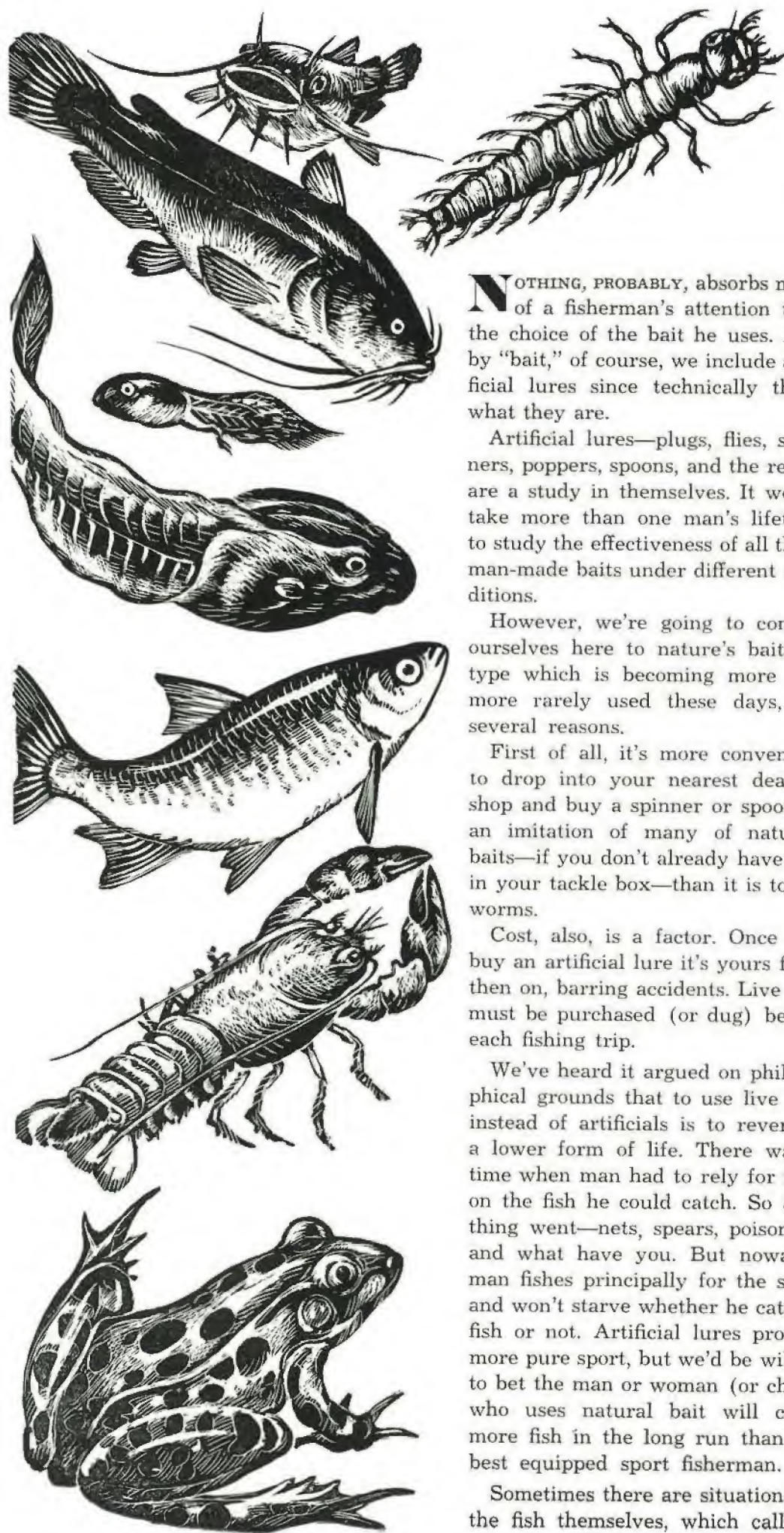
Since they do not have to establish a ground contact for needed moisture, dry-wood termites can enter the attic or second story of a building and work down.

Many of the dry-wood termite colonies now damaging Florida homes were originally brought in with trunks, old furniture and books. They did not migrate naturally.

Fortunately, colonies are relatively small compared to those of subterranean termite species, usually containing only about thirty to sixty individuals. Rate of damage is therefore slower than where large colonies of the subterranean species are at work, but nonetheless destructive in the end. They often irreparably destroy valuable papers and art objects.

In a colony of dry-wood termites, there are only two castes of adults—the reproductives that eventually make mating flight, and the wingless, sterile soldiers that have powerful jaws lined with teeth. Sub-

(Continued on Page 44)



If it swims, crawls
or flies, chances are it
is a candidate for use as bait

NOTHING, PROBABLY, absorbs more of a fisherman's attention than the choice of the bait he uses. And by "bait," of course, we include artificial lures since technically that's what they are.

Artificial lures—plugs, flies, spinners, poppers, spoons, and the rest—are a study in themselves. It would take more than one man's lifetime to study the effectiveness of all these man-made baits under different conditions.

However, we're going to confine ourselves here to nature's baits—a type which is becoming more and more rarely used these days, for several reasons.

First of all, it's more convenient to drop into your nearest dealer's shop and buy a spinner or spoon or an imitation of many of nature's baits—if you don't already have one in your tackle box—than it is to dig worms.

Cost, also, is a factor. Once you buy an artificial lure it's yours from then on, barring accidents. Live bait must be purchased (or dug) before each fishing trip.

We've heard it argued on philosophical grounds that to use live bait instead of artificials is to revert to a lower form of life. There was a time when man had to rely for food on the fish he could catch. So anything went—nets, spears, poisoning, and what have you. But nowadays man fishes principally for the sport and won't starve whether he catches fish or not. Artificial lures provide more pure sport, but we'd be willing to bet the man or woman (or child) who uses natural bait will catch more fish in the long run than the best equipped sport fisherman.

Sometimes there are situations, or the fish themselves, which call for

natural bait because lures are ineffective. In those cases it's a good idea to know where to look for handy natural bait without spending precious time digging worms. Let's look at some natural baits you may not have thought of as such and the best places to find them.

In The Water

The most obvious bait found in the water itself, of course, is the minnow. It should be understood that "minnow" is a generic term and covers not necessarily the young of a particular species, but most young fish.

Better check on the laws of your state to find out whether there are restrictions on their use. Since minnows are natural food for most fish, conservationists of many states feel excessive nettings have reduced the supply below the danger level for adult fish and therefore take a dim view of fishermen using this bait. In some areas the supply has all but vanished.

If use is permitted in your locality you'll find they're easy to catch. Run a scoop net through a pond a few times and you'll clean it out. There are also traps of various sorts which let the minnows get in but not out. And there are the types of nets you lay on the bottom, spread chum above them, then raise them once in a while for your catch.

Almost any sort of food will serve very well as chum—boiled potatoes, bread or cracker crumbs, and the like. Commercial minnow netters make an excellent chum by moistening stale bread with inexpensive fish, such as sardines.

But a word of caution about minnows. Under most state laws you'd better not use young bass or trout or other game fish.

BAIT UNLIMITED

By JULIUS STURM

Young catfish, particularly the so-called stone catfish and madtoms are good minnows. You can catch the stone cats by hitting large stones in shallow water with other rocks, then picking them up as they float downstream stunned by the concussion.

A word of caution is also apropos here: Small wire-cutting pliers are handy for clipping the barbs just back of the head before you put them into the minnow bucket. You'll appreciate this caution if you've ever met up with the business end of a catfish barb.

Dace, in their several species, make excellent minnows. One type popular in the South are young goldfish which are bronze-colored and highly durable. However, again laws intervene, and in some states it is illegal to use them for bait.

Minnows are just one form of water life which makes fine bait. Scrape the bottom and you'll find (among a lot of ooze and slime) such piscatorial delicacies as "bass bugs" which are the larvae of damselflies and dragonflies. These make excellent bait and are sold commercially in some locales.

Tadpoles are plentiful and good for the purpose. So are stone fly and caddis fly nymphs. And newts, which are sometimes erroneously referred to as lizards, are relatively plentiful.

If you find a stream with current there are a variety of excellent aquatic baits living on the bottom—hellgrammites as well as the usual stone fly and caddis fly nymphs.

All forms of larvae, including those mentioned above, and hellgrammites (larva of the dobson fly) are best caught by two people working together. One holds a net down-

stream (made of anything with a fine mesh) while his partner turns over rocks slightly upstream.

In smooth, quiet water you can look for crawfish, or crayfish as they are sometimes called. You can easily identify them because they look like tiny lobsters. For catching them your best bet is a flat net with sides that lift whenever the net is raised. Any kind of fish or ripe meat will serve as bait. Put it in the center of the net and lower the whole thing to the bottom. Gently lift it occasionally to take out the crawfish which will collect around the bait.

For best results with game fish use small crawfish. If you can get them when they're shedding, so much the better. Or you can take the tails of larger crawfish and peel them. These make wonderful bait.

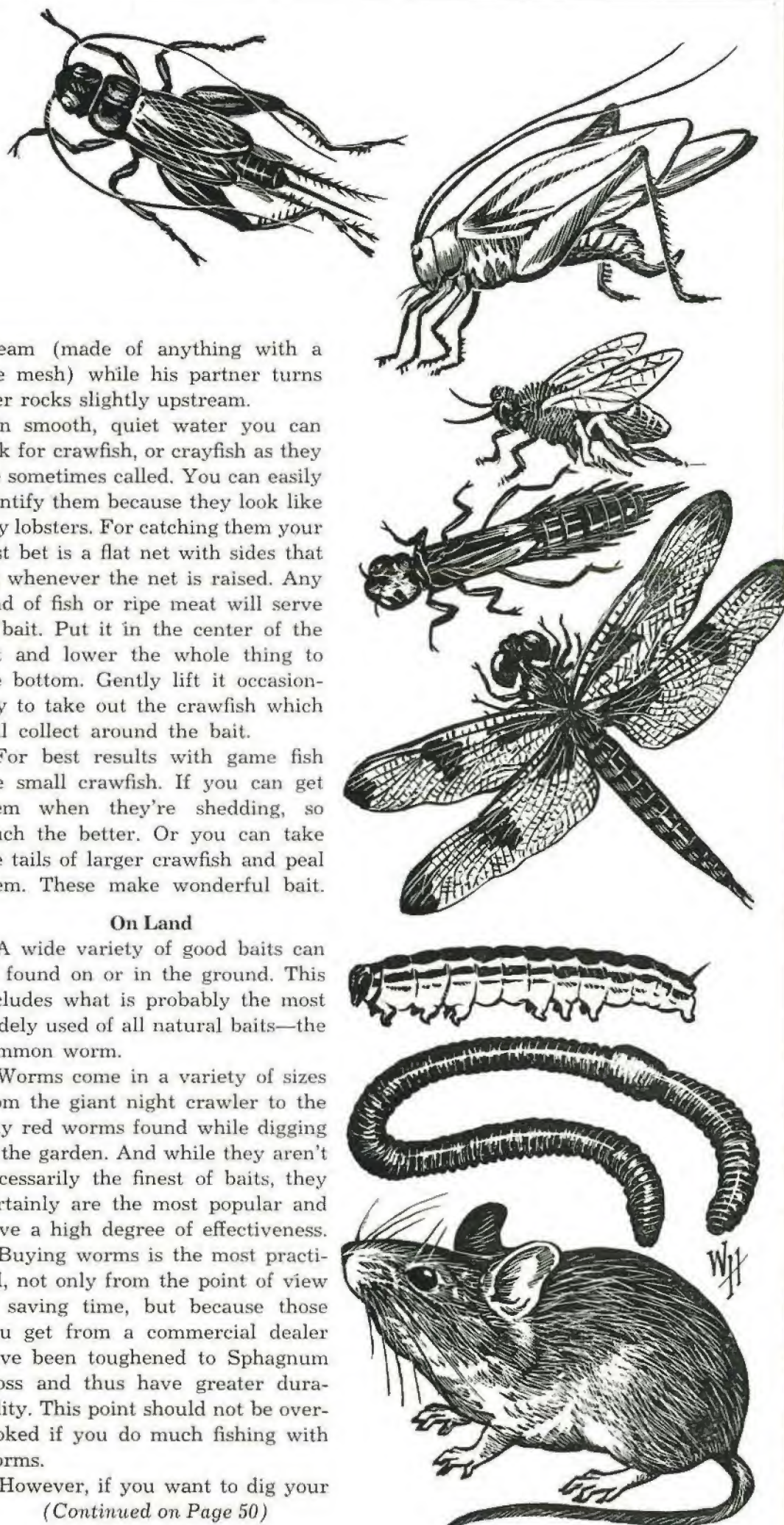
On Land

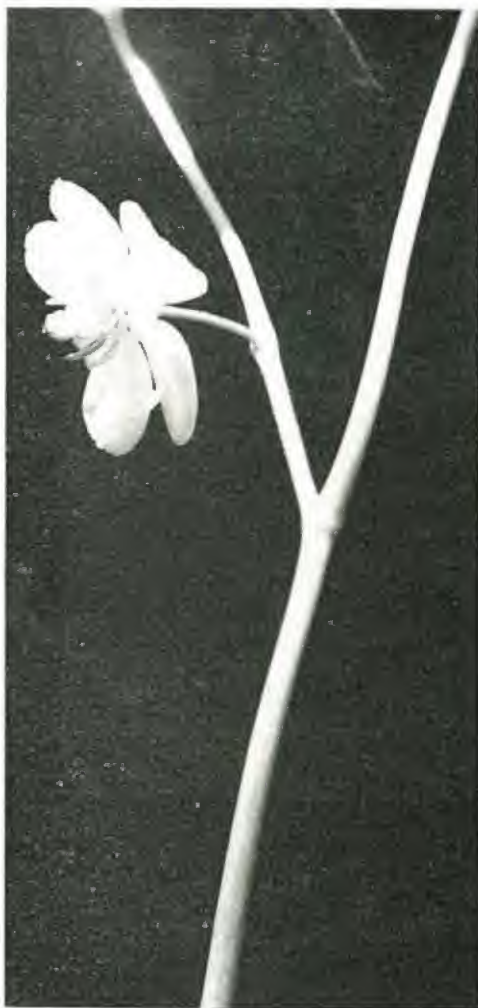
A wide variety of good baits can be found on or in the ground. This includes what is probably the most widely used of all natural baits—the common worm.

Worms come in a variety of sizes from the giant night crawler to the tiny red worms found while digging in the garden. And while they aren't necessarily the finest of baits, they certainly are the most popular and have a high degree of effectiveness.

Buying worms is the most practical, not only from the point of view of saving time, but because those you get from a commercial dealer have been toughened to Sphagnum moss and thus have greater durability. This point should not be overlooked if you do much fishing with worms.

However, if you want to dig your
(Continued on Page 50)





Normally the flowers of may-apple appear on a short stem at the fork formed by two umbrella-like leaves. In this case, the flower appeared on the stem of a leaf, two inches above its lawful place.



This birch tree has trouble keeping its feet on (or in) the ground because of a huge rock. What happened? A small birch grew out of the soil which once covered the rock, its roots spread out, and as they grew thicker, the soil broke and washed away.

Violations of Nature's Laws

By LARRY J. KOPP



Whether the insects decided to live dangerously is unknown, but the mud dauber nest, above, built in the open, is against the law of nature. To the left, it is hard to determine if the wires grew into the tree or whether the tree grew around the wires.



Driftwood comes in many shapes and sizes but this "swan" growing on a dead chestnut tree is far more surprising. While the tree was still living, the branch was bent backwards and developed in this shape.

Here are some examples to
show that even nature
sometimes violates its own laws



Cliff swallows usually build nests on cliffs and other large rock formations, and are one of the few birds known to build a roof over their nests. In this instance, the pair elected to construct under the barn overshot, economizing on the labor.



Bald-faced hornets may be flighty but the family which constructed this nest on top of an abandoned paper wasp's nest set a new record.

Even more unusual is the two wild maple trees, below, which got into this shape when humps growing on each tree collided.





It is a wise sportsman who carries along a 'Snake Bite Kit' when hunting such areas offering natural concealment for the 'pit vipers'.

DANGER

By HORACE LOFTIN

IN THE NOVEMBER 1957 issue of *Florida Wildlife*, Chuck Schilling's column briefly reported on some experiments under way for the treatment of poisonous snakebite, using the drug *cortisone*. Results of this particular series of experiments on laboratory animals indicated that cortisone might prove helpful in treating humans bitten by venomous snakes.

Since that time, *Florida Wildlife* has been pretty nearly swamped with inquiries from sportsmen who want to know where to get this "wonder drug" and how to use it.

So we started a little investigation of our own. We wanted to learn and

report the real status of cortisone in snakebite treatment and when and if Florida hunters and fishermen can hope to have it in their first-aid kits. Here is what we found out.

First, why experiment with cortisone? In the simplest words possible, the hope for cortisone in snakebite treatment lies in its ability to block the destruction of red blood cells by certain substances, especially some enzymes. It is known to be effective in cases in which two opposing types of blood are mixed (as might happen in a transfusion). Normally, special enzymes in each type of blood attack and destroy red cells of the other blood type. But the addition of cor-

tisone helps keep this from happening. The venom of most American snakes contains enzymatic substances which similarly attack and destroy the red blood cells of the victim. Perhaps, then, cortisone might work in the same way to prevent blood cell destruction by snake venom.

That (very briefly!) is the theory. Now scientists in laboratories throughout the United States, Canada, South Africa and elsewhere are putting cortisone to the test. Up to now, the results are inconclusive. A U.S. Public Health Service spokesman summed up the matter in a letter to us: "On the basis of the information we have been able to obtain on this subject, it would appear that, perhaps, any enthusiasm concerning cortisone or ACTH (a similar drug) as snakebite remedies might be somewhat premature!"

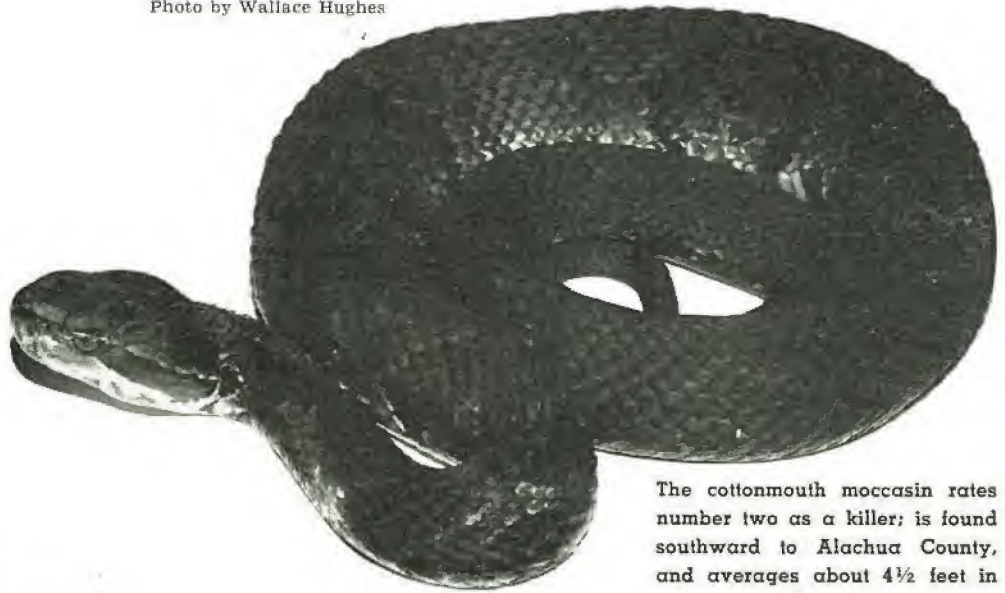
If and when cortisone becomes a regular part of snakebite treatment, it will still not become a part of your first-aid kit. It takes a doctor's prescription to obtain this drug. It is highly potent and should be administered only under the close supervision of a physician. Continued use



Small pocket kits can be easily carried; contain all the necessary items for immediate first aid afield.

A FIELD

Replace that fear of
snakes with — common sense
and reasonable caution — and you'll
be safer afield than walking along a busy street



The cottonmouth moccasin rates number two as a killer; is found southward to Alachua County, and averages about 4½ feet in length.

of cortisone can lead to undesirable side effects which are often of very serious nature. Suction and antivenin will remain the chief features of snakebite treatment, even if cortisone is adopted as a standard part of snakebite cure. Cortisone would assist, not replace, these tried and proven measures undoubtedly.

So it appears that cortisone is and will remain a thing for the medical profession to worry about and work with. Sportsmen, concerned with simple first-aid measures for snakebite, will stick with their tourniquet, suction cup and, perhaps, antivenin kit.

While an extra tool in the first-aid kit like cortisone might be something of a comfort to have around, still, the simplest snakebite equipment is apparently enough to do a good job in the field until a doctor is reached. Almost any strip of cloth will do as a tourniquet; the mouth is a safe and effective means for sucking the wound; and any sharp—but sterilized!—knife will make an incision if this is called for.

This brings us around to the vital

question: just how dangerous is a bite from a poisonous snake, anyway? Well, this depends on a whole lot of things. For instance, what species of snake is involved? How big is he? What is the age or state of health of the person bitten? (A child is usually affected much more seriously than an adult.) Where is the bite, and how deep is it? How much venom actually gets into the victim?

Snakebite has been compared to falling off a wall. A lot depends on

how high the wall is, how large or strong the person falling, and the kind of ground at the bottom. Falling six feet and 26 feet evidently involve different degrees of danger, just as does being bitten by a pygmy rattler or a full-grown diamondback.

But people do fall off walls and they do get bitten by poisonous snakes. Ross Allen and Wilfred T. Neal of the Ross Allen Reptile Institute have records of 611 poisonous snakebites in Florida from 1934 through 1951. This averages out to 34 cases a year. Dr. Henry M. Par-

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Photos by B. E. Johnson



If purchasing a complete first aid kit for field work, make sure that an approved snake bite kit is included.



Most snake bite kits contain illustrated instruction for immediate first aid. In the Cutter 'pocket kit', step-1 shows how to paint knife blade and fang marks with antiseptic from glass vial, making incisions at fang marks, left, ¼-inch long, ⅛-inch deep. The lymph constrictor is then applied about 1½ inches above the bite, not too tight.

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Dr. Parrish sent a questionnaire to all practicing physicians and hospitals in Florida concerning snakebite. He came up with a figure of about 120 poisonous snakebites a year in the state. Dr. Parrish's average shows an incidence of 3.36 snakebites per year for every 100,000 citizens of Florida.

How many of these victims die as a result of being bitten? Dr. Parrish found an average fatality rate of 2.5 per cent among 241 poisonous snakebite cases which received some treatment. For the nation as a whole, Dr. Lawrence M. Klauber estimates that approximately 1,000 persons are bitten by poisonous snakes each year, with about 30 (or three per cent) of these ending fatally.

Any danger which can snuff out the life of a man, woman or child is not to be taken lightly. Yet it is only fair to draw an optimistic lesson from the above statistics: fear of poisonous snakes should not be a deterrent to anyone's enjoyment of the out-of-doors, in Florida or elsewhere. In comparison to the number of persons in the field, the number of poisonous snakebites is very very minute. If you are bitten, the chances are better than 97 out of 100 that you will survive. It helps to remember that more people are killed each year in the United States by lightning than from snakebite!

There are six species of poisonous snakes in Florida: the eastern diamondback, the canebrake rattler, the ground or pygmy rattler, the cottonmouth moccasin, the copperhead and the coral snake. According to Dr. Parrish, the three rattlers are responsible for about 60 per cent of the recorded snakebites in Florida. Cottonmouths cause about 20 per cent of the bites; copperheads, two per cent; coral snakes, two per cent; and the rest unidentified.

The rattlers are the greatest killers, accounting for

some 85 per cent of Florida snakebite fatalities. The eastern diamondback rattlesnake (*Crotalus adaman-teus*) undoubtedly is way out front as the chief cause of deaths by the rattlers. The largest of all the North American venomous snakes and one of the heaviest in the world, the diamondback can inject a great amount of venom in a single bite. Average mature length of this specie is about five feet, though larger individuals are often encountered. They are found throughout the state, favoring open prairies with clumps of saw palmetto.

The canebrake rattlesnake (*Crotalus horridus*) also packs a potent venom. This rattler can be told from the diamondback by the series of dark crossbands against a lighter background on his body. It is found southward to about Alachua county, in flatwoods and bottomland. It averages about 4½ feet in length.

The ground or pygmy rattlesnake (*Sistrurus miliar-ius*) can inflict a troublesome bite, but there are very few records of actual deaths caused by it. Small (about two feet long) but fiery, this rattler is found throughout the state, especially near lakes and marshes.

The cottonmouth moccasin (*Ancistrodon piscivor-us*) holds second place to the rattlers as a killer. This ugly, pugnacious snake is found throughout mainland Florida, and has an average length of about three feet. Since snakebite "cure" is often inflicted on poor, scared victims of nothing more than a bite from a harmless watersnake, it is important to be able to identify the moccasin from his non-venomous cousins. Look for the broad head and thin neck, like an arrow on a shaft. If you have killed the snake, observe the typical pit between the eye and nostril (from which the term "pit viper" is derived). Cautiously examine the dead snake's mouth with a probe for the tell-



Next step is to put the suction cups to work, over the incisions. Moisten the skin, and mouth of the cup,—squeeze all air from the cup and place firmly over the cut allowing air suction to hold cup in place. This sucks out venom along with lymph fluid. Lymph constrictor should be removed every 10 minutes for short time, then applied slightly higher.

Commission Photos by B. E. Johnson

tale fangs. This thick-bodied snake also has a dark band on either side of the head.

Copperheads (*Ancistrodon contortrix*) are restricted to a very small portion of Florida near the Apalachicola River in Gadsden and Liberty counties. Average length is about 2½ feet. Their bite, while dangerous, is not to be compared to that of a good-sized diamond-back's.

The last of Florida's poisonous snakes has two outstanding features: he is the most deadly and the least troublesome. This is the coral snake (*Micrurus fulvius*), a real beauty in red, yellow and black rings. venom from the coral snake rapidly affects the victim's nervous system, as does that of the cobras. Our other poisonous snakes have venom which predominantly attacks the blood and is somewhat slower in acting. Fortunately, coral snakes are slow to anger and slower to bite. They lack the large front fangs of the pit vipers; so to inject their venom they must literally chew their victim. Almost all human victims seem to have been bitten while handling these attractive, tame snakes. Coral snakes can be told immediately from similarly patterned snakes (such as the kingsnake) by the fact that the snout is always black—a good point to memorize.

The main function—from the snake's point of view—of snake venom is to help secure food easily and safely and to aid in its digestion!

If a small rattler, for example, strikes at a large rat as an item of diet, he is not apt to hold onto the rat until it dies. Rather, he may release it and track it until it dies or ceases to struggle. This protects the rattler from possible injury by the victim, since he doesn't to hold the prey as it thrashes about in agony. Even when this "waiting period" is not observed, it is easy to see how venom helps in procuring a square meal.

Another little known but vital service of venom to the snake is that it actually serves in the digestion of the food. With their fine teeth, snakes cannot do an effective job of chewing. Using their fangs, then, the venomous snakes introduce their poison into the bloodstream of their victim. This poison (or a fraction of it) acts as a digestive juice, preparing the future meal for better digestion in the snake's stomach!

This is not so surprising when you realize that venom is actually a highly modified form of saliva, and that the poison glands are only certain salivary glands taking on a different kind of duty.

With this idea of the basic function of snake venom in mind, it is somewhat easier to feel a little bit kinder toward poisonous snakes. At least we know they aren't that way out of sheer meanness! This also helps explain why poisonous snakes are generally quite ready to stay out of the way or warn you when you come too close. If he bites you and you still have time to kill him, this means of defense does little good for the snake. So he'd rather not use that unique dining utensil of his; he'd rather be left alone.

But in spite of good intentions to avoid each other on both the parts of snake and sportsman, in Florida each year some 120 cases of poisonous snakebite do occur. Such a statistically unlikely and personally unfortunate accident might happen to you or to some member of your party. So here are some rules for first-aid treatment in the field for poisonous snakebite—and some reasons why the rules are as they are. Better keep them in mind. They could save your life.

1. Make sure the snake was poisonous. This may seem like an obvious point; but when a snake strikes, you are not apt to be in the calmest frame of mind. Too often, a snakebite victim has undergone rather
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rigorous and painful medical treatment for the bite of a completely harmless snake. So, without delaying first-aid treatment, attempt to identify the culprit. This is really a job for the third member of the party; the second should be busy with the patient.

While not completely foolproof, early reactions to the bite often tell whether it was from a venomous snake. The typical bite of Florida pit vipers (rattlers, cottonmouth and copperhead) is usually followed by a very intense local pain at the site of the wound—"like liquid fire in my veins." Also, local swelling and discoloration of the area around the bite generally occur soon. Two fang marks are indicative of a pit viper bite, though these may be obscured by punctures from the non-poison-bearing teeth of the snake.

2. Keep the victim calm. This is a good time to recall your statistics. Even in untreated cases of snakebite, only a small minority prove fatal. With first aid and subsequent medical attention, 97 times out of 100 the patient comes out all right. The victim should move as little as possible—never run!—since activity tends to increase the circulation and hence speed the spread of the poison.

3. Apply a loose tourniquet. Except in rare cases in which the fangs penetrate a large blood vessel, spread of the venom is mostly through the lymph system, which is fairly close to the surface of the skin. Purpose of the tourniquet is to retard the flow of this lymph toward the direction of the heart. Therefore, the tourniquet does not need to—and should not!—stop the blood circulation.



Photo by Wallace Hughes

Nature sometimes gets the signals crossed, and fails to provide the usual tell-tale markings. This rattler was a solid color, sort of olive-grey tone. There is no doubt, however, as to the family; not while the 'buzz-tail' is sounding off.

Immediately place the tourniquet about two inches above the wound. It should be loose enough to allow you to place a finger under it and to feel the patient's pulse below it. In any case, the tourniquet should be released for at least 20 seconds or more every fifteen minutes. There is **GRAVE DANGER** in not loosening the tourniquet often enough. Resultant gangrene can be more awful than the effects of the snake bite.

All snakebite kits are provided with rubber tubing for a tourniquet. Otherwise, you can use a necktie, belt, handkerchief, or almost any strip of cloth for this purpose.

4. Make incisions. Unless the snake is a very small one or unless you can reach a doctor in 10 or 15 minutes, a lengthwise cut should be made beside or just above each fang wound. Depth of the cuts should not

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Photos by B. E. Johnson

Larger snake bite kits usually contain syringes complete with adapters. When 'pumping', fluid should only be slightly blood-tinged as lymph and venom are all that is to be removed. Regardless of suction-method used, as swelling progresses above the bite toward body, move tourniquet above swelling, make new incisions, repeat procedure.



The Flying Census Taker

— — — — of birds

By JANE EADS BANCROFT

THREE MINUTES TO SEVEN we heard the buzzing craft ripping the heavens over our Captiva home, a half-mile from the tip-of-the island landing beach, and hurriedly hopped in our car.

The wiry, weather-bronzed pilot was standing expectantly beside the little Piper Super-Cub when we drove up, already restless to get started. It was exactly seven.

I was glad I had worn the rubber-soled shoes and shorts for it was an awkward and risky climb into the seaplane poised lightly, half in the water, like a scarlet dragonfly. An abrupt greeting, a joint "so long" to my spouse and the pilot climbed into the small, straight-jacket of a seat ahead of me with accustomed agility, slid the entire right side of the craft tightly into place and with a brisk whirl zoomed in seconds into the path of the brightening sun heading toward the Keys.

William D. "Tommy" Wood, a Florida "boy" who began his flying back in the haphazard barnstorming 20's, was on one of his routine trips as a flying census-taker—of birds!

As the only pilot-biologist of the U. S. Fish and Wildlife Service operating below the Florida-Georgia line, his special beat was the salt marsh areas of the seminoles and South Florida islands. On this trip he was out to make an estimate of the numbers of Great White Heron then nesting in the myriads of water-laced emerald mangrove isles lying like an intricately patterned scarf lightly tossed around the sun-kissed shoulder of the state.

Captiva's four miles were behind in a glimpse and we were now buzzing low over the lighthouse at the



On this trip, Tommy Wood was out to make an estimate of the numbers of Great White Herons nesting in the mangrove isles.

westerly tip of its bigger sister island, Sanibel, to which it is adjoined by bridge. Tommy and his wife, Louise, live part of the time in one of the two old roomy, breeze-swept houses-on-stilts that had been built in 1876 for lighthouse keepers and their families when the beacon was fueled by kerosene. (Today the lighthouse is operated by switch manipulated on the Gulf islands 17 miles southwest from Fort Myers, Fla. across Charlotte Harbor, is operated by an acetylene-sun relay switch.)

Tommy had come to Sanibel in 1949 from Key West as manager of the Sanibel National Wildlife Refuge which now covers some 2,534 acres. Established in 1947, the refuge is under the administration of the United States Fish and Wildlife Service, in the Department of the Interior. Besides the Refuge, Tommy's administration includes several important rookeries along the coast which he covers by boat, as well as plane.

There was little conversation between us as we headed this day to our destination, the Marquesgas, a cluster of islands in the Gulf, west of Key West. But now and then Tommy yelled above the plane's racket, a bit of information, an observation he thought would interest his passenger.

"A ray," he shouted, casually pointing to a smoky blot in the clear depths of turquoise below.

"Got good weather all the way", he remarked later, removing his earphones after a check-up with the nearest airport.

"Temperature is 62 at 7,000", he scribbled on a pad.

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Once we passed through some gray clouds and light rain streaked the windshield. Tommy pointed off to our right. There was a rainbow such as I'd never seen before in my life—a complete, perfectly visible circle.

"All there but the oft-promised pot of gold," yelled Tommy.

We circled over Key Deer, Big Pine Key, others of the more than 100 keys in the area of the Key West Refuge—Great White Heron and Man and Woman Keys, No Name, Barracuda, Mullet, Cottrell and Knock-'em Down Key! There were no roads, no sandy shores, no houses on most of these. In this sense they WERE strictly for the birds, though as in the case of Key Deer where some fresh water was available, they sheltered other wildlife which somehow managed to swim over from spots on the mainland.

Coming down for a stop at Little Torch Key we were met by big burly Jack Watson, Key West Refuge manager, F. A. Cunningham, boss-manager of all the South Florida region, and gaunt, colorful Cliff Carpenter, a charter boat captain who came to the Keys in 1928 on a two-week vacation and stayed. The Service uses Cliff and his boat to guide them to inaccessible spots in the area.

"We've been making a special check on the Great White Heron," Tommy explained later when we came down for coffee and refueling at Key West. "Local birds, by and large. They were on the thin line of extinction in the early 30's. Now there are some 800 to 1,000 of them nesting around here."



We marvelled at the almost complete lack of fear on the part of the birds on Captiva and Sanibel. On a recent shell-hunting trip on some mud-flats, we had gotten to within four or five yards of some Roseate Spoonbills.

Ever since we had reached the keys, Tommy had been making his count. He'd do it with his finger pointing to the beautiful, speckless white birds as they winged with incredible grace and elegance, their yellow legs trailing behind them, against vivid blue sky and water. Sometimes the counting was in Tommy's head. He'd nod slightly as he sighted them, standing distinctly individual in the marshes, or roosting high in the mossy green mangroves. They were easy to spot. He didn't try to count them all. Now and then he jotted in his charts.

"I saw more this trip than I've seen in a long time," he observed later. "It looks like they're on the

The central mangrove head of the Refuge is a favorite night roost for two or three thousand herons, egrets, and ibises.





The ducks flock to the Sanibel Refuge from November through February. The planting of suitable food aquatics is the reason for more and more waterfowl wintering in this area.

increase. I don't know for sure until I check against the feeding. At the Sanibel Refuge where our main consideration is for the ducks, the American egret and the wood ibis, we can pretty much tell about the population increases and decreases by the feeding."

Tommy says he's more interested in the ducks that flock to Sanibel from November through February.

"We have a complete 100 percent growth of aquatics for ducks," he added. "I'm always trying to grow something new. Currently it's the banana water lily. The reason for the increasing use of the refuge is of course the planting of suitable food aquatics, widgeon grass and bulrushes, for instance."

Year before last, he said, some 100 acres were eating out in one of the island development areas.

"We're attempting now to open more waterways and planting more desirable food. Food and protection are what the birds are looking for," he went on.

I marveled at the almost complete lack of fear, or distraction, on the part of birds on Captiva and Sanibel at the nearness of humans. I told Tommy how recently when we were shell-hunting on some mud flats we had gotten to within four, or five yards of some roseate spoonbills and how even then they took off without fright, or flutter to light down only a brief distance away.

"There are no hunting areas within 200 miles north of us," he explained. "They have forgotten about guns when they reach the islands. Here, instinctively, they know they are safe."

"At one time people used to kill and eat the ibis," Mrs. Tommy Wood said when we were discussing the subject after our return that afternoon from the Keys. "Now folks do everything they can to protect the birds and other wildlife on the islands and they encourage them to feel at home."

It was partly through Tommy's recommendations that the Sanibel National Wildlife Refuge had been established. After serving as a Lt. Commander in the Navy in the South Pacific during World War II he had been operating his own seaplane charter and instruction service in Key West before joining Fish and Wildlife.

He had noted on flying visits to the lush, tropical vacation islands, so unspoiled and removed from the neon honky-tonk and boom-building of the Florida mainland, the need for restoration and maintenance of desirable wildlife resources, principally birds.

The refuge is unique in that it is essentially a cooperative endeavor between the landowners and the U. S. Fish and Wildlife Service. Except for a small acreage owned by the Federal government, the land is largely owned by private individuals, year-around residents, people from the north who winter there, and groups planning development-building projects.

On one tract, formerly a dry spartina marsh little

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Commission Photo by Wallace Hughes

No one will argue that the forebearers of the 'possum were way back towards the end of the line when brains were passed out.

"Dull witted he may be but he'll be with us
for a long time to come will ole - -"

BR'ER

order, the animal most people call to mind when the term pouched mammal is mentioned. Our opossum survives in practically the same form in which it existed thousands of years ago, judging from fossil remains. In a way of speaking old *Didelphis* is a living relic.

As a sort of odd ball in the animal world, the opossum gets off to a flying start. The youngsters are born a remarkably short thirteen days after their conception. At this time the little creatures are actually smaller than a good sized bumble bee. It takes about fifteen of them to weigh one ounce. They resemble some sort of an insect grub more than they do a mammal, what with their tiny peg-like legs and transparent bodies through which their internal organs are plainly visible.

Immediately after birth, the young are faced with a life and death struggle. They must find their way by blind instinct into the mother's pouch where they immediately attach themselves to a nipple. How the tiny unseeing creatures are able to work their way through the forest maze of their mother's long coarse hair and into the security of her pouch is little short of miraculous. But do so they must and apparently without any help from the mother.

Although the number of nipples averages twelve, there is some individual variation, there may be as many as seventeen or eighteen young produced in a litter. Those that are tardy in finding the haven of the marsupium may reach it too late and are doomed to starvation. The pouch is provided with muscles by which the mother can keep it almost completely closed, thus preventing the young from tumbling out once they have attained their goal.

Once they have firmly attached themselves to the source of nourishment, the young remain for weeks without relinquishing their hold. Early growth is remarkable; within a week's time they are ten times the size they were at birth. Within a couple of months, the hazards of woods life coupled with the growing limitations of the milk supply will almost certainly have reduced the litter to an average number of eight.

YA TAKES A HAWG AND a wharf rat and mix 'em together and pour the mess into a sack made out of a ole dirty dustmop and ya got a possum." The old woodsman chuckled. "Yep, he ain't never goin' to take no prize in a beauty contest but fer eatin' meat, a pen-fattened 'possum is hard to beat."

The trio of beady-eyed balls of dirty yellow and gray fur curled up in the corner of the chicken wire cage looked like anything but the makings for a special Sunday dinner. It was too late to back out gracefully however. I had never eaten roast 'possum but heard it was good, I'd told Hank. His invitation for a possum feed the coming Sunday had been accepted, but with certain mental reservations.

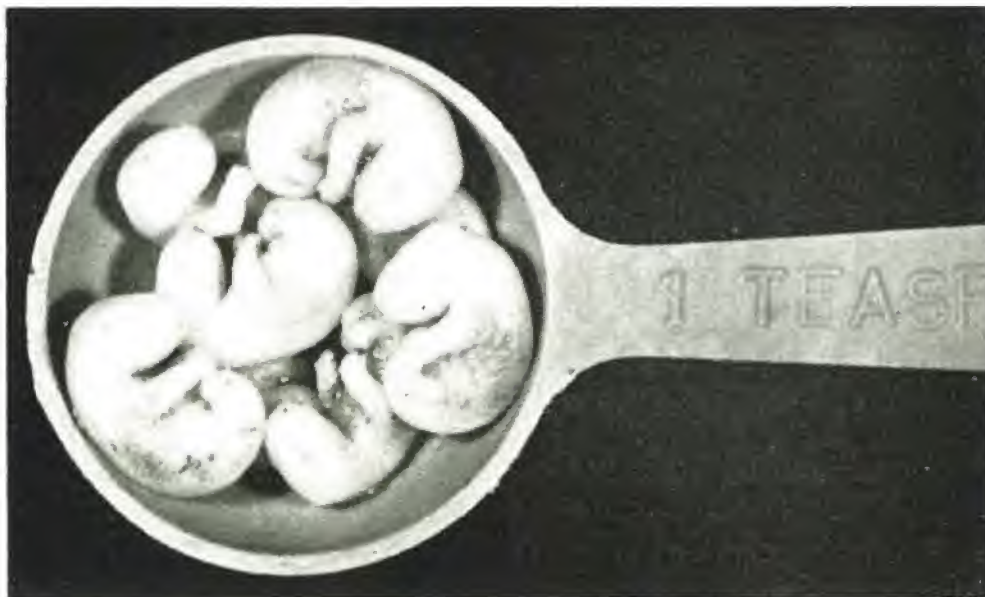
By the following Sabbath evening all doubts about the lowly opossum in the role of table fare had been erased from my mind. When prepared by a cook who knows the ins and outs of possum cookery, the unlovely looking critter is downright delicious.

Aside from the fact that the opossum provides meat for the pot, some pots that is, the creature itself is an unusual and interesting one. *Didelphis marsupialis*, as the scientists have tabbed the species, is the only member of the ancient order Marsupialia yet surviving in North America. The Marsupials, those mammals having a pouch, are well represented in both Central and South America as well as in Australia. In fact Australia's kangaroo is the classic example of the

A teaspoon full of one-week old opossums.
About eight of each litter survive.

POSSUM

By MORRIS H. SHAW



Photos by Leonard Lee Rue III

By the time they are a couple of months of age, the youngsters are capable of clinging to the long coarse hair of the mother and are frequently carried about "piggy back" fashion. In another month the youngsters wander off to take up an independent existence.

No one who knows the opossum from first hand experience will argue the premise that the forebearers of the present day creatures were way back toward the end of the line when the brains were being passed out. Nor would he have any space to carry any more than the slim ration of gray matter which is his lot. The skull of the opossum is remarkable for its relatively small brain case, a characteristic by which the skull is easily identified. A raccoon of roughly similar

size will have a brain capacity of several times that of *Didelphis*. Couple with the fact that the animal has a primitive, that is less highly developed brain than practically any other mammal you could name, it is small wonder that the critter just sort of lollygags through life in a more or less placid, sluggish trance.

Above ground, in trees and bushes where opossums spend quite a bit of their time, they are much at home. Not that they gambol and race madly about the tree tops squirrel-fashion. There is nothing in the opossum make-up that demands, or desires, speed. But their curious elongated "thumbs" with which the hind feet are equipped and their strong prehensile tail, makes the 'possum brand of aerial gymnastics, sluggish though it is, a safe pastime.

The first two months of the year sees some of the early litters brought forth, especially in the southern reaches of the state. Many females manage to give birth to a second batch of youngsters during the same year.

The best known of the species' traits is the act of "playing possum" or sulling as it is often called down here in the South. When threatened by real or imagined danger, old Br'er Possum is very apt to keel over in a most realistic imitation of death. His eyes close, his tongue lolls from between slack jaws, and his body becomes limp. In such a state, the animal will endure no end of poking, barking and nipping. Usually, but not always. Now and again one will most unsportingly ignore the rules and come suddenly out of a sull with teeth bared, as the scarred muzzle of many a possum hound will attest.

The sull has been the object of
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When the young 'possums are a couple of months old, they cling to mom's long coarse hair, and sometimes travel 'piggy back'.





There is no need to travel
far from home to see
strange and wonderful things
when you have a

WINDOW WONDERLAND

By MARGO HOSFORD

HAVE YOU EVER HAD trouble with your neighbors? Did anyone ever move next door to you and immediately upset your way of doing things? Well, that has happened to me — and I love it! Because my new neighbor is just as ardent an outdoor fan as I, and it is gratifying to have someone around who will come out at the drop of a feather in answer to my call: "what kind of bird is this?"

But it so happens that she knows a lot more about warblers and some of the other migratory birds than I, and where in the past I have been content to be a lazy arm-chair bird watcher, she now has me going on long walks just to see what we can see.

And this is not all. Since she is an enthusiastic Botanist we must find all manner of wild flowers and plants to add to those already growing on our adjoining lake-fronts. To top it all I must learn the botanical names for them.

The only thing I can teach her is what little I have learned about snakes.

Keeping up with the birds alone has been a full-time avocation. With all these added attractions it is good that I have no family dependent on me for their meals.

Of course I do not really object to the bird walks though I still maintain that we can see as many birds from my windows or at the very least within the boundaries of my grounds. But on the second of January in 1958, a very cold and very windy day, I just about decided that bird walks were not for me.

We planned on that day to make a private count of the birds within a five mile radius. We did not get more than two miles from home and we spent most of the time dashing back to the comparative warmth of the car. But we did see a lot of birds. Before lunch-time and the cold drove us home we had spotted over

sixty species. This, with the exception of a few shore birds and ducks really was no more than were right here around the house at the time.

That cold spell, which will probably go down in history as The Big Freeze of '58, brought in an amazing number of birds, both the native ones and the migratories.

For the first time I realized how very many Cardinals we had. When I counted two dozen of these beauties in one large Duranta bush near the window I could hardly believe my eyes. But that shrub had never before been stripped of all its leaves and now there was no foliage to hide them, so perhaps they had been here always.

Since Cardinals were only a small portion of the population the resultant traffic jams caused quite a few tragedies. As is usual in such accidents, it was the innocent bystander that suffered.

With some forty jittery female Redwinged Black-birds starting up at every fancied danger, all the other birds would become nervous and would often fly without direction. Many times a day a resounding thump on a windowpane brought me rushing to see what had happened.

Sometimes tell-tale feathers sticking to the glass gave evidence of the victim's identity and testified to the violence of the blow. Seldom was it fatal and I marveled that so small a creature could survive such an impact. Now and then a broken neck would result but more often the bird was only knocked breathless. A surprising number of such accidents appeared to do no harm at all.

There have probably been more fatalities from prowling cats and hawks than from these other mishaps. I have found evidence of several such cases: feathers from Cardinals, doves and other birds.

One entire wing which I picked up had me puzzled. Could there be a white bird with black polka dots? Then I realized it was a wing from one of my beloved Red-bellied Woodpeckers. What appears to be a checkered mantle is really made up of hundreds of small black dots on the white feathers. And confidentially, he also wears polka-dot shorts! Very scattered black dots and dashes on the soft white leg feathers are visible only when he is as near as the window feeder.

Few people will agree with me on the fitness of the name "Red-bellied." They insist there is no red there. I wished for these Doubting Thomases the day one of these birds, hanging upside-down on the suet basket, flaunted his undersides for my inspection. I'll admit the red is more of a wash than a solid color—actually like a reflection of red on white. But it is definitely there.

Feathers are fascinating. When a visiting Myrtle Warbler met an untimely end in one of the traffic accidents I carefully examined it under a magnifying glass. Every feather except the white under parts was delicately patterned, like a peacock feather. Each individual feather had an "eye" of black fringed by a dainty grayish border. Even the minute ones on the curve of the wing where it joins the body and those that mark the inverted "V" on the breast were marked so. The white wing bars were formed by a reverse pattern: dark feathers with white "eyes." All the design was delicate beyond belief.

It was true also of the White-throated Sparrow I found at the foot of the bank in the back yard. There was no mark on him to show how he had died. Even in his winter dress the feathers were beautiful. Those of the tail were a soft shade of brown and like the flight feathers, were translucent. Those on the back were such a deep chestnut as to look almost red. To my surprise, (because no book I have mentions it), I found a narrow band of yellow inside the curve of the wing at the shoulder. The yellow of the eyebrow" was not as marked as on others here later in the season but enough color showed to convince my skeptical neighbor of its existence. She has known White-throats long and intimately in Massachusetts, but had never before noticed the yellow.

One cold morning when the rush hour was over at the feeders, I picked up an all-gray bird which was completely strange to me. Almost as dark as a catbird, its tail was shorter and it had a thicker, more finch-like bill. It had been feeding with the Redwinged Blackbirds but it definitely was not one of them.

I checked my Bird Guides, not too carefully, then took it next door. My neighbor did not recognize it. She suggested putting it in the deep-freeze, saying she would take it to Russell Mason at the Florida Audubon Society at Maitland that afternoon.

Still not satisfied, I rechecked all my books. The neighbor and I were two red-faced would-be ornithologists when I found it to be a female Cowbird. She had

been accustomed to having them around in New England and I had known them at home in Kentucky.

These birds must surely have been here in other years. We are so accustomed to seeing flocks of the brown striped Red-winged females, we just don't look at them when they come in.

Incidentally this business of not looking at the commonplace is a mistake. Just take the binoculars and examine one of these "plain brown birds" sometime. You will find they are not plain at all, but truly very handsome.

There is something amusing or tragic or unusual to see every day in the year, if we only look.

But it is the arrival of the fall and spring visitors that lends spice to this bird watching, and the bird tourist season starts early. Actually you can hardly call some of them tourists because they nest in the State, but north of here.

One of the very first to come is the Yellow-throated Warbler, who may get here as early as August and remain till spring. I feel sure he does not nest nearby because while in fall and winter he comes every day to the window feeders, I never see him in mid-summer.

His nest is built in the swinging Spanish moss, (and Heaven knows there is plenty of that around.) I imagine many nests are destroyed in the spraying or removal of the moss.

This warbler's slender five-inch length makes the chunky inch longer Titmouse appear quite large. He is a dainty gray-backed bird, with white and black markings on face and sides. The butter-cup yellow bib is heavily outlined in black. A white mark over the eye and a tiny white crescent beneath it give him an amusing world-weary expression. The white under the eye is difficult to see unless he is as near as the window sill.

After this small character comes the even smaller

(Continued on next Page)



"Just take the binoculars and examine one of those 'plain brown birds'——"

(Continued from preceding Page)

four and a half inch Blue-gray Gnatcatcher, looking for all the world like a miniature Mockingbird both in shape and color. You think there surely can be nothing smaller.

But soon the Ruby Crowned Kinglet will be here. His unbelievable three-to-four inches makes him tiny indeed. Until a few seasons ago I had never been satisfied with my identification of this kinglet. All of the Bird Guides will tell you that the crown is usually "veiled", and I had never seen it exposed. And then two of these newly-arrived midgets got into a terrific argument and permitted me to come very near to them. The vivid red patch on the head of each flashed forth like a flame, much to my delight.

Since all of our year-around birds are comparatively large and the majority of the migratory birds I am most apt to see around the house are very small, it is easy to over look the little fellows even though the trees may be full of them.

When someone asked me: "just what kind should I look for at this season?", I had to take a turn around the place to see what we did have.

On that day I found a busy Black and White Warbler, creeping along the trunk and branches of a large oak tree to the west of the house. Like so many of the warblers, he ignored me completely, thus giving me a chance to see him from every angle. There is no danger of confusing him with any other: he is just definitely black and white striped all over.

I saw too a dressy little fellow in the Brazilian Pepper tree. He was wearing a blue-gray topcoat, a black scarf pulled snugly up to his eyes, and a snow white vest. This was the Black-throated blue Warbler. He also allowed me to come within three feet of him as he searched the leaves for insects.

Now and then a flash of orange and black told me an American Redstart was in the branches above. Except for the white underneath, its entire body is shiny black. Large splashes of vivid orange on the wings and tail, plus this birds habit of constantly fluttering, and spreading its tail fan-wise, gives it the appearance of some exotic butterfly.

There were other small visitors here that day: the tail-wagging Phoebes, Myrtle Warblers, flocks of Goldfinches not in their lovely black and gold of summer, but still handsome even in winter dress. The Orange-crowned Warbler was here—the very small bird which the Bird Guides all insist is "the dingiest of all warblers," and which to me is a beautiful gray-green and one of my favorites.

And then there was my very special Parula Warbler, who, like the Yellow-throated, builds in hanging moss. Peterson's Field Guide describes him as "—the only bluish warbler with a yellow throat and breast. Two white wing bars—and a suffused greenish patch on the back."

I remember the first one I identified. Creeping along a branch just six feet from the porch he most obligingly turned himself upside down and showed me each identifying mark, including his necklace of reddish-brown. In that light he did not look blue at all, but more gray. Later when I saw him in brilliant sunshine I saw that he was a heavenly blue.

With the exception of the Yellow-throated, the Orange-crowned and the Myrtle warblers, few of these midgets of the bird world visit the feeding areas near the house. Many of them stay in the trees and bushes. Of course the sparrows—White-throats, the small Chipping Sparrows and the Field Sparrows are usually thick around the grain scattered on the ground. But there are others that are attracted by the suet feeders and the oranges on the board and although they may be here for comparatively short visits, they make good use of the "cafeteria" while here.

It seems that each bird I see is "my favorite." Perhaps I should have a Top Ten list. But if I did have, I think the Carolina Chickadee would be well up in the ranks. How he loves the suet and the sunflower seed! And How I love him! He is always loud in his praise of the food and he chatters to me constantly when I am in the yard. He spent nearly two months with me last winter and was a most welcomed guest.

It is hard to say which part of the migration period is the most interesting. It is spread over half the



"The yellow-throated warbler may get here as early as August, and remain until spring——"

year it seems, from early fall till late spring. But April of 1958 will stand out as a very special time for me. It was then that Indigo Buntings invaded a large part of Central Florida and over a dozen of these small jewel-blue birds spent many days at my place and at my neighbor's next door.

I first saw one or two at the home of a friend across the lake. Then a near neighbor called to say she had quite a few. The next day they descended on the grain in my back yard and evidently found it to their liking. Feeding there along with my many brilliant red Cardinals they made a colorful picture.

And as though these Indigos were not treat enough, several of the slightly larger Blue Grosbeaks joined them. A similar shade of blue, the Grosbeaks have the added color of reddish-tan wing bars. They not only fed on the ground but came boldly to the widow sill feeder too.

Then to put the crowning touch to this special event, the Painted Buntings came. With the violent-blue head, bright red body, blue wings and tail and a green patch on its back, this slightly more than five-inch beauty is known as the most gaudily colored bird in America. While this is a bird of the Southern states and nests as far south as Northern Florida, I have heard of only a very few nesting in this part of Central Florida.

One other guest who gave me a great deal of pleasure last winter was the Catbird. They sometimes come to the house as early as October, but they are unpredictable. They nest as far south as this and while I hear them now and then I never see them in summer. During the freezing weather of last winter half a dozen of these slate-gray mimics became regular boarders. Never before had I known them to be so pugnacious. They were all somewhat belligerent but one of them was undisputed boss. Only the two inch longer Mocker could call his bluff.

With his jaunty black cap and the rusty-red patch beneath the tail he is easy to identify and his mewing call, so like a cat's justifies his name.

When my neighbor had her large nursery in Massachusetts she became a bit annoyed when it was discovered that so many plant markers disappeared. These T-shaped aluminum markers were about six inches long and the labels showed the botanical name of each plant along with other pertinent information.

It was not until fall arrived and leaves began to fall that the culprit was discovered. A Catbird's nest was found with twenty-two of the markers stuck helter-skelter all through it, giving it the appearance of a very untidy hair-do pinned up with fancy hair pins.

Not all of our bird transients are miniatures or even normal sized. One morning in October the panic button is suddenly pressed and there is wild excitement followed by a sudden quiet. Marauding Hawks have arrived. The vicious Sharp-shinned and the Cooper's which have been absent from Central Florida since



"—and then there was my very special Parula Warbler—"

spring, have returned to put fear into the hearts of all the song and game birds.

These two Hawks are so thoroughly destructive to wild life that through them all the others have suffered. Hunters and farmers have been shooting indiscriminately at any and all of them. Because these other Hawks are actually beneficial to the farmer, feeding on reptiles, rodents and many kinds of insects, they have long been protected by law. In order to save them, all Hawks have been placed on the protected list.

When the Cooper's or the Sharp-shinned makes a raid near the house and snatches a hapless Dove or a Woodpecker or some other unfortunate, the cries of the dying victim are pitiful.

Even larger birds appear on the scene now and then.

In answer to a phone call one day last fall, I drove to Lake Ola, three or four miles south of here, to see a "huge white swan." The "swan" which stubbornly stayed in the middle of the large lake, turned out to be a White Pelican and what it was doing on that inland lake is anybody's guess. Maybe it overshot the coast line and landed at the first likely looking water.

For several years there has been a Brown Pelican on Lake Dora, for short visits, but after all it is not over sixty miles to the coast where they normally live. The white ones do not nest so near. We could never understand how this big brown bird lived. He never seemed to feed but sat all day on the dock. At sunset he would take off straight west across the lake and out of sight, and the next day he would be back.

It is not too surprising to see these coastal birds here but I'll admit I was somewhat surprised the

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Careful composition and good lighting can produce beautiful underwater scenics.

Underwater

By WILLIAM M. STEPHENS

I learned about underwater
photography the hard way.

In addition to wasted film and
time, I ruined two cameras

and almost became a confirmed landlubber.

FIVE YEARS AGO I built a plexiglass case for taking underwater pictures. Since my favorite camera was a twin-lens reflex, I assumed that this would also be the ideal underwater camera. I wanted a simple, inexpensive case and yet one which would allow manipulation of all controls, so I devised what I considered an ingenious solution. At one end of the square box I cut a round opening and glued flanges around its edges. By wearing a surgical rubber glove on my right hand and stretching the cuff of the glove around the flanges, I could keep my hand inside to wind the film and make adjustments of speed, aperture and range. In theory, that is. Underwater, I ran into difficulties.

First was the problem of getting the case to stay down. Containing a cubic foot of air space, it was as buoyant as an inflated inner tube and strongly resisted my efforts to submerge it. I must have looked pretty ridiculous swimming around underwater with my right hand and the camera case bobbing around on the surface. Each time I dived, I had to jump on the box, hold it under my stomach and force it down.

One good thing—I had no trouble getting back to the surface.

I finally solved this problem by placing ten pounds of diving weights inside the case. Things were a little cramped with ten blocks of lead rattling around inside, along with my hand and the camera; and when I tried to take a picture I usually found one of the weights lodged in front of my lens. But at least I was able to take the case down without difficulty.

But not very far. At a depth of ten feet the water pressure forced my hand farther into the case and blew up the glove like a balloon. One frustrating day I spent thirty minutes trying to photograph a school of tarpon which lay at a depth of fifteen feet. The water was turbid and only a close-up would do. The

fish cooperated beautifully, but every time I got close enough to take a picture, the water pressure expanded the glove to such an extent that I couldn't find or press the shutter release.

Another time the pressure forced the glove off the flanges and into the case, and the camera was soaked.

These were minor troubles. The biggest problem was the fact that my pictures turned out, with remarkable consistency, to be incomparably lousy.

My subject was generally out of focus. Not that it made much difference, since I was almost always too far away to get a decent picture, anyway. And when I got close to the subject, I usually missed the real action. If I aimed at a diver spearing a fish, I frequently got his legs and flippers, or a gray expanse of nothingness. On the rare occasions when the subject was composed well, and in focus, there was still nothing to print because of the lack of contrast.

The contrast problem I overcame by accident. With the ignorance that comes from experience, I had assumed that a yellow filter would improve my black-and-white pictures. A K2 filter, I reasoned, would eliminate the heavy blue overtones.

It eliminated the blue, all right. It turned it to black. And when all of the light is blue, and it becomes black—what do you have left?

One day a lead weight shifted and knocked the filter off my lens. I was amazed at the improved contrast of the pictures that resulted.

The problems of focus and composition were overcome, to some degree, by trial and error. More important, however, was my discovery that the twin-lens reflex is *not* the ideal underwater camera. Not by a long shot.

Photos by William Stephens

The author holds on to a sunken limb as he composes photo in a Florida spring.

Photography



A spotted gar moves across the bottom in sixty feet depth of a clear Florida spring.

It is a wonder that my clumsy mistakes did not make a landlubber of me. For, in addition to the dozens of rolls of film I ruined—and the embarrassment of trying to explain to friends who asked to see the pictures of the six-foot barracuda I claimed to have photographed—I ruined two expensive cameras before I learned to take decent pictures.

Actually, underwater photography is not difficult. A less stubborn person than I could have learned without ruining even one camera. Everyone, however, will ruin plenty of film, for no matter how long you study the situation from above the waterline, you will learn certain truths only by going below.

Don't be discouraged by your first efforts. Your pictures are bound to get better. And you'll be happy that you stuck it out—for there is no greater satisfaction than capturing the beauties of the underwater world on film. For me there is no pleasure in spearing a fish and throwing its dead carcass on the dock; but I receive a tremendous thrill from capturing a fish in its own element on film.



Photo by Dick Younger

The matter of magnification is a big problem with the beginner. All objects appear one-fourth larger and, consequently, only three-fourths of the distance away. This is really no problem at all, however, when you realize that the camera lens sees the subject as the eye sees it. Estimate the range at *what it appears to be*—not what it is. Some skindiving photographers carry a six-foot-long stick for gauging distance. This is fine—but remember to figure its length at 4½ feet after you go under.

It's good practice to get in the habit of estimating distances while on land—particularly at ranges of from five to fifteen feet, since 90% of your pictures will be made in that area. Practice sighting through the finder of your camera to get used to the angle of view. Underwater, you will not be able to use your finder or ground glass, so this is important. Some camera cases have wire sights, others have rifle sights. Rifle sights are sufficiently accurate when you get used to the angle of your lens.

It doesn't take too much imagination to realize that, if objects are magnified, the focal length is extended. A normal lens becomes a long lens while a wide-angle lens becomes a normal lens. For this reason it is almost imperative to use a wide-angle lens.

A wide-angle lens, of course, permits you to get close to your subject. This minimizes the loss of light through the scattering effect of millions of suspended particles of matter in the water (even in clear water). Also, the wider the angle of your lens, the greater the depth of field—and with most medium-priced housings it is impossible to change the range setting while submerged. And any setting used on a wide-angle lens gives a greater depth of field than on a longer lens.

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In my opinion, the 35mm is the ideal underwater camera. In the first place, its depth of field is greater than obtainable with any larger camera. Secondly, many 35's are built for interchangeable lenses. And with a 35 you can shoot as many as 36 pictures without reloading. The compactness and ease of operation are also important factors.

The choice of a particular camera depends upon individual taste and the housings which are available (for I personally would not recommend home-made cases—unless you're far more skilled at building your own than I am.) Most of my pictures have been made with a Leica and a 35mm wide-angle lens. I have recently acquired a Robot camera and housing and it appears to be the most versatile unit I've seen. With it I can take as many as 25 pictures in rapid sequence without winding the film. The picture is smaller than the normal 35 (it takes 50 pictures on a 36-exposure roll), but I have blown these negatives up to 11"x14" without objectionable grain.

If you want good results you can't send your film out for stock processing. Few processors take the care that is necessary with 35mm, and—more important—



Pleasing silhouettes may be obtained by going down deeper than the subject and shooting toward the surface.

underwater shots must have special treatment. In my opinion, Plus X film is best, and a good, active, fine-grain developer such as Ethol UFG should be used.

If you use a meter (you can take one down in a glass jar or buy a special waterproof meter), rate the film at twice the A.S.A. number, or more, when working in clear fresh water—such as is found in most Florida springs. In other words, rate Plus X at 160, which means that you decrease the exposure one stop from what the manufacturer recommends. Then develop normally. Personally I prefer to rate Plus X at 320 and then overdevelop by 25%. (This is standard procedure for handling flat subjects; and virtually everything you shoot underwater is flat to the camera.) Under poor light conditions, or in murky water, I rate Plus X at 500 and then overdeveloped by 40%. This does not appreciably increase grain if you keep the temperature of your chemicals constant.

As a practical matter, experience is as valuable as a meter when working with black-and-white. The scattering of light can throw a meter off, and the wide latitude of Plus X gives you room for considerable error. As a fairly reliable guide (for normal development), shoot Plus X at 1/100 at f.11 when working in clear spring water of 25 feet or less when the sun is bright. In other words open up about two stops from

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With collecting jar and hand net, Dr. Eugenie Clark searches for tiny specimens of tropical fish. Dr. Clark, Florida's famous lady diver, authored the best-seller, "Lady With a Spear".

PART TWO of Underwater Photography, in which the author tells of experiences and explorations in many of Florida's springs, will appear in the August issue.

Learn about a
fascinating hobby of
following the hidden
trails of Florida's
"Ancient Men" with . . .

THE STONE PICKERS



Artifact collecting became a serious hobby with Aleta and Chris Burkhardt back in 1929; — their collection now consists of 11,000 items stored in more than 250 assorted containers.

By DON ROBERTS

IF YOU LIKE TO SOLVE "who-dun-it" mysteries and unravel old mazes and puzzles in an outdoor setting, then take a look at the eleven thousand fragments of ancient cities and civilizations that lie neatly scrubbed and catalogued in a private garage at High Springs, Florida.

The "stone-picking" collectors responsible are Chris and Aleta Burkhardt, who have long followed the hidden trails of Florida's "Ancient Men" while engaged in their favorite hobby — collecting and cataloguing stone artifacts.

Hobby results? Over the years, this family-team has spent spare minutes and days searching over fields, hills and water-sheds while collecting specimens of primitive tools and arts. The 11,000 items they have picked up now fill 252 labelled containers varying in size from nail-kegs to cigar-boxes—enough to someday constitute a valuable museum collection.

Artifact is one of the most inexpensive and fasci-

nating of the outdoor sports. All you need is a stout pair of walking shoes and sharp eyesight, plus a gift for noticing things that everyone else overlooks. You deal in spear-points, arrow-heads, pot sherds, knives, axes, clubs, hammers, scraping tools and drills and cutters—all made of clay, stone or glass, and all found almost everywhere you walk in Florida.

Artifact collectors follow unusual rules. They all seem to have an unwritten law that they will talk all night about their collections, but they will rarely reveal the exact location where they found their specimens. They are so secretive that you seldom see two independent collectors hunting together, since they are jealous of the location sites they discover. To an artifact collector, a good finding-site is more precious than a gold-mine, and he wants to keep it to himself.

There is a good reason for the secretiveness.

Unlike coin and stamp collecting, in stone artifact

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Of the handmade items found from the days of "Ancient Man," spear and arrow heads are probably the easiest to recognize. Modern testing methods reveal that rare finds from North Florida date back 8,000 years. Artifacts this old are generally uncovered at depths of four to five feet, or from river beds.





To the serious artifact collector, pieces of stone and oddly marked rocks turn out to be ancient tools such as scrapers, holding tools, axes, club heads, hammer stones, grinders, etc.



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collecting there are no duplicates. There is only one original—the piece the collector found, and it can never be replaced if lost, broken or traded. Each item that the collector finds is valuable to him, since only he knows the exact location where he found the original item, and the conditions which surrounded the artifact when he found it. Thus, artifact collectors seldom exchange or trade their items with other collectors.

Chris Burkhardt, and his wife, Aleta, are good examples of experienced artifact collectors. Chris, who has been an employee of the Florida Power Company for over thirty-one years, and a District Manager since 1945, was born in the village of Burkhardt, Wisconsin, near the Willow River, in 1902.

As a boy, he found his first stone projectile points at the site of a one-time Indian village on the banks of the Willow River, and the accuracy with which the points were made by primitive people with crude tools impressed the 13-year old Burkhardt.

The first finds were layed away and it was not until the fall of 1929, while surveying for an electric line on the edge of Paynes Prairie in Alachua County, that collecting began as a hobby. It was nearly dark when Burkhardt noted a purple colored spear point

lying on the plowed ground, and less than fifteen feet from it picked up a red spear point.

The following Sunday, Aleta, joined him in walking the fields in search of stone artifacts. Many items were found on the first hunt with his wife becoming enthused. Since that time, she has joined him frequently in searches for artifacts. Burkhardt stated that his wife has a better eye for finding the artifacts than he, "but she leaves the scrubbing and cataloging up to me."

We asked Chris Burkhardt how one would know where to look for Indian artifacts. He stated that man from the beginning had two things in common with the man of today in that they both must have food and water if they are to survive. Village and camp sites were located close to some source of drinking water for the sake of convenience. You always look for village sites near a creek, lake, pond, river or sink which at one time contained water.

A village site is determined in most instances through finding scattered flakes of flint and pot sherds. Many of the sites show fairly recent occupancy with a Spanish pot sherd, a piece of rum bottle or a porcelain sherd from an early white settler's dish showing up. Now and then a piece of rum bottle is found with a worked edge proving that some recent Red Skin made a scraper using the glass rather than flint.

Signs of recent occupancy even with the occurrence of the late style projectile points does not indicate, in many instances, that you have not located a very old village site. Some of the sites showing recent occupancy have been occupied intermittently for thousands of years. Erosion of the banks on the water side of Paynes Prairie (Alachua County) exposed projectile points dating the occupancy back to 8,000 years or more, even though recent signs existed.

Another means of securing tips of site locations is by asking school boys, sportsmen, rural mail carriers, etc., if they know any places where arrowheads have been found. A waitress questioned on Mont Eagle in 1951 led to some very interesting finds near McMinnville, Tennessee.

A mailman questioned while eating breakfast in Augusta, Georgia, furnished the Burkhardts with the exact location of Fort Moore, South Carolina. He told of finding beads at the site when a boy. Chris and Aleta found over four hundred fragments of clay pipes, gun flints, sherds of Indian, Spanish and porcelain vessels, scrapers made from rum bottle fragments, and projectile points, the first day.

Chris's wife is always embarrassed on out-of-State trips with his inquiring at random about Indian sites, but the questions paid dividends.

Many funny incidents have taken place in the collecting of Indian lore. A postmaster in Fayetteville, Tennessee, told the Burkhardts about an Indian village site at Coldwater on a certain man's farm. The owner of the site lived in a very fine Colonial home

and the Burkhardts received a very cordial welcome. The owner was informed that collecting stone artifacts was only a vacation hobby and that Chris' occupation was with an electric utility. He told Burkhardt that he would not be able to find the site, but he would have his general farm superintendent take them to the spot. He gave Chris a note to give his superintendent who was at a dairy barn about a half-mile from the house. Chris and Aleta were escorted to the Indian site, and in about one-half hour the superintendent reappeared in a Cadillac car with the owner. The owner walked up to Chris and said, "Let's get that electrical gadget out of your car and find this gold." Chris had a difficult time explaining to him that they were not hunting gold. He told the Burkhardts that the former owners of the property had maps showing where the gold was supposed to be buried.

The Burkhardts were refused the privilege of hunting on an Indian village site within eighteen miles of their home. A few months later, a moonshine still was uncovered at the site. Most of their collecting has been on the surface of plowed fields. Searches are made following heavy rains.

We asked Burkhardt what grounds he had for stating that some of his stone artifacts date man as occupying North Florida some eight to ten thousand years ago and received some fairly convincing answers.

Scientists with Atomic Age tools are picking up the trails of Nomadic hunters who wandered out of Siberia and across Bering Strait to Alaska during the recession of the glacial period 10,000 or more years ago. Since 1927, when scientists found flaked stone projectile points among the bones of extinct bison near Folsom, New Mexico, both professional and amateur archeologists have been on the alert for points meeting the Folsom specifications.

Various scientific excavations have been made in a number of localities with the Folsom points being found in place with numerous species of extinct animal bones dating back 10,000 years or more. Burkhardt and others have found Folsom-like artifacts in river beds of North Florida with the extinct animal bones, but the contemporaneousness has been questioned due to location.

Now with a dating method born of the Atomic Age, archeologists are able to date many of their finds. This is commonly called the Carbon 14 test. The dating method works best when used on wood, animal bones charred in cooking fires, on charcoal of such fires, etc. The tests are made on the carbon contents and uncharred bones are not satisfactory.

Chris gained a vast amount of practical knowledge on recognizing ancient stone artifacts through the late J. Clarence Simpson who was a valued member of the staff of the Florida State Geological Survey in Tallahassee from 1930 to 1952, and began his career as a hobby in 1920. In May, 1948, J. Clarence Simpson wrote an article in the "Florida Anthropologist" on



Commission Photos by B. E. Johnson

The Burkhardt collection consists mainly of artifacts collected in North Florida, South Georgia, and Tennessee. More than half are from North Florida.

Folsom-like points in Florida. Six out of eleven of the Folsom-like points mentioned were in his personal collection and from the same general area as those pictured. We quote a statement made by Simpson in this issue: "The peninsula of Florida is rich in the remains of extinct animals generally considered as Pleistocene, and at many of the localities where these animals have been found, evidences of Man have also been found." The artifacts together with the association with extinct fauna would seem to indicate a rough contemporaneity."

Simpson told Burkhardt that even though the Folsom-like points found in Florida differ in some respects from the true Folsom points found in New Mexico, the proof of their very old existence would be forthcoming.

Excavations at Russel Cave near Bridgeport, Alabama, made under the joint auspices of Smithsonian Institution and the National Geographic Society in May, 1956, brought proof of J. Clarence Simpson's prediction on the age of the Folsom like points. A Folsom-like point of the same general characteristics as found in North Florida was recovered under the leadership of Carl F. Miller with the radioactive Carbon 14 test, revealing an age of 8,160 years, plus or

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minus 300. The Indians who made and used the Folsom-like points in Alabama are called the Early-Archaic.

The true Folsom point of 10,000 years ago was fluted to the tip showing finer workmanship than the Folsom-like point of 8,000 years ago. The Folsom-like points found in North Florida are very rare and usually found at depths of between four and five feet or in river beds. The deep notched beveled points found in North Florida are often found in the same strata with the Folsom-like points which would indicate a similar age.

The amateur archeologist continually finds artifacts which bring numerous questions to his mind. Chris Burkhardt frequently contacts Ripley P. Bullen, M. E. Curator of Social Sciences at the Florida State Museum in Gainesville, on advice in classifying items found and is grateful for his opinions. Chris' most valued books on ancient man are "Early Man in America" by E. H. Sellards, "Ancient Man in North America" by H. M. Wormington, and frequently, articles appearing in "The National Geographic Magazine."

The Burkhardts have recovered a large collection of stone artifacts at a pre-pottery secret village site in the southwestern part of Alachua County. Collecting of artifacts is usually done individually or with members of an immediate family. Two collectors rarely go hunting together as village site locations are kept secret. Pottery in Florida dates back to about 1600 B.C. Burkhardt feels that all of the artifacts recovered at his pre-pottery site carry a minimum age of 3,500 years. The majority of these artifacts are white and chalky with disintegration of the stone taking place. A large number of the projectile points are straight based with a good possibility of dating back to the Folsom age or earlier. Most of the very old artifacts in North Florida carry a yellowish-white color. It was interesting to note that none of the hafted

scrapers or drills have been found on the pre-pottery site. Neither have any signs of Spanish or Early American occupancy shown up.

Early in December of 1954, Burkhardt was led to some shoals on the Suwannee River in Lafayette County by a 77 year old pioneer. He had told Burkhardt during the summer months about picking up arrowheads on the shoals when in his twenties. The river had only been low enough to expose the shoals twice in his lifetime, and indications for the third time were at hand. The old gentleman contacted Burkhardt in December and told him the shoals were exposed. The first trip was a bit discouraging with the only find being a stone mortar and a few flakes of flint.

Burkhardt returned to the shoals alone two weeks later after a rain and found that hogs had been rooting up the shoals. Here's where the fun began with many different types of worked artifacts being exposed. It was one-half mile from the shoals to the nearest road and Chris' pockets and arms were loaded with the lore. A sack was carried to carry the lore on all future trips.

Here a valued collection of various styles, sizes and shapes of projectile and spear points, along with knives, scrapers, club heads, axes, manoes, hammer stones and flint cores were found. Practically all of these artifacts have a water polished brown shellac appearance. The search was more interesting than usual with the recovering of fossilized shark and horse teeth, camel bones and other fossilized bones which appear to have been used as tools. A camel

leg bone was recovered 14 inches below the surface with a black stone and scraper. The scraper, a deep notched beveled point, and the two Folsom-like points recovered are nearly black while the balance of the collection is brown. Both of the Folsom-like points were recovered near the channel. We know that the fossilized teeth date back millions of years before Man, but the shark teeth show signs of use. Archeologists are confident that the Early Red Skins used shark teeth for tools and jewelry. Burkhardt displayed a shark's tooth recovered 38 feet down in a limerock mine on the edge of High Springs. The \$64,000 question is, "Where did Early Man collect the fossilized teeth he used as tools?"

Archeologists are of the opinion that the artifacts found on the shoals washed there over a period of years and Burkhardt differs with them in this regard. He recovered numerous fairly good sized flint cores which would not likely have washed any distance. A core is a stone from which flakes have been struck which are later tooled into artifacts. Burkhardt believes that the shoals were on the edge of the Suwannee River when ancient Man occupied them. It is reasonable to assume that the river changed its course over the long period of years.

The Burkhardt collection consists mainly of artifacts collected in North Florida, South Georgia and Tennessee. More than half of the artifacts are from North Florida with the Burkhardts having personally collected 90 percent of them.

Chris Burkhardt is now giving some thought toward a permanent resting place for his collection. Most museums display together artifacts from various locations. The Burkhardt collection, which represents thousands of miles of walking and many hours of eye strain, has been cataloged by sites. He hopes to see the day when the majority of the artifacts in his collection are placed on public display grouped by the village sites where found in North Florida. ●



"Of course I think as much of you,—it's just that she's better on rabbits."

FLORIDA BIRDLIFE



Florida Blue Jay, *Cyanocitta cristata*.

During most seasons of the year this jaunty and noisy bird is among the most conspicuous of the native species. Jays are as equally at home in city parks and residential areas as they are about brushy fields and pastures and in the woodlands of the back country. They are found throughout the state.

With its crested head, gray blue upper parts, black throat crescent, and grayish underparts it is one of the most widely recognized birds of the state. The strident call notes can hardly fail to attract the attention of even the most casual of observers to the presence of the jay-bird.

As noisy as they are, and as conspicuous about their searching and prying into everything that attracts their attention, at one season of the year they become as quiet as the proverbial mouse. From about the

first of April, or perhaps a bit earlier, until well into the summer is the nesting period. While actively engaged in the seasonal nesting duties, the basic character of the bird seems to undergo a change and it becomes silent and secretive in its movements and feeding activities.

The nests are usually located in trees at moderate heights above the ground, commonly from 8 to 10 feet to perhaps 35 or 40 feet up. Twigs, bits of string, strands of Spanish moss and pine needles are among the basic nest building materials. The structure is generally lined with softer vegetable material such as fine rootlets.

Three to four eggs comprise the average clutch and there are frequently at least two clutches of eggs laid each season.

Jays take both animal and vegetable material in their feeding activities, the composition of the diet de-

pending upon the season of the year. Insects of a wide variety are eaten in quantity as are acorns and nuts. Fruits, both wild and cultivated are also eaten.

Florida Jay, *Aphelocoma coerulescens*.

Although the Florida Jay, or scrub jay as it is sometimes called, is about the same size as the Florida Blue Jay there is little similarity between the two species. The Florida Jay is a bird of rather slender build and lacks the head crest of the Blue Jay. The tail is also longer than that of the Blue Jay.

In plumage coloration the Florida Jay is yellowish brown on the back with light grayish underparts, blue wings and tail and purplish blue head.

The bird ranges from the vicinity of Jacksonville across the peninsula

(Continued on next Page)

(Continued from preceding Page)

to the area near the Suwannee River's mouth and southward into Collier and Glades Counties. Along the Atlantic coastal strip it extends through at least the northern half of Dade County.

In its choice of habitat, the Florida Jay is selective. It requires dense thickets of brush known commonly as scrub. This selectivity gives rise to a common name, scrub jay, which is more appropriate and certainly more expressive and less confusing than the widely adapted name Florida Jay.

The rootlet-lined twig nests are often located in sand pines or oaks or in dense myrtle bushes. Generally they are quite close to the ground, sometimes only a foot or two up and rather infrequently as high as 12 feet above ground level.

The nesting season starts locally in the latter part of March and extends into May or early June. The brown-spotted, greenish blue eggs number from 2 to 4 in a clutch.

The scrub jay does much of its feeding at ground level but seldom far from dense cover into which it rapidly disappears at the threat of danger. Both animal and vegetable foods are taken. Acorns are among the important vegetable foods although quantities of wild fruits and seeds are also eaten. Various insects, especially beetles, grasshoppers, crickets, ants, and wasps comprise a sizeable percentage of the animal material taken.

Crow, *Corvus brachyrhynchos*.

Various authorities recognize two subspecies of the common crow in Florida. In the northwestern portion of the state, from the Aucilla River westward ranges the so-called southern crow, *C. b. paulus*. Throughout the balance of Florida *C. b. pascuus* holds sway. The differences are such that they would hardly come to the attention of any but the most avid and detail-minded bird watcher. In general, *pascuus* averages smaller in size and has a relatively more slender

bill. Both birds are all black and of typical crow appearance.

Nesting activities may start in February although March and the first half of April probably sees most of the nesting in full sway. The nests are rather bulky structures of twigs and Spanish moss with a lining of softer material such as horse hair and plant fibers.

The eggs are white or greenish white with variable amounts of brown and light purplish markings. Nesting sites are variable and may be located in large trees in hammocks, along the edges of cypress swamps, or even in conspicuous lone trees in open fields or prairies.

In its feeding habits the crow finds a wide range of material both animal and plant acceptable. A breakdown of the year around diet of the crow, based upon the study of a great number of collected specimens shows that about 72 percent of the total consists of vegetable material. Corn makes up a considerable percentage of this, actually about 38 percent. Much is picked up in the fields after harvest and represents waste grain. Oats, wheat and other small grains are taken where available. Various wild fruits, such as those of poison ivy, wax myrtle, dogwood, sumac, and Virginia creeper are seasonally important. Acorns are also eaten in quantity.

The animal portion of the crows' food includes a long list of insects and insect larvae in addition to fish, snakes, mice, rats, lizards and crawfish to name some of the more common items. The eggs and young of various birds are also consumed as the opportunity permits.

Fish Crow, *Corvus ossifragus*.

To most observers, the fish crow appears no different than the common crow so widely distributed and so well known in all parts of the country. This bird is, however, considerably smaller than any of the subspecies of the common crow. The size, which averages in total length from 14 to 16 inches, coupled with its peculiar hoarse, guttural call, readily separates this species.

With the exception of the Keys, the fish crow is a common resident over most of the state. Any coastal section in Florida is apt to host considerable numbers of the species. Not that inland waters are neglected by fish crows, for they are abundant about many of the lake shores and streams wherever there is the possibility of finding good feeding conditions.

The birds frequently gather in large flocks on certain favored night roosting grounds, the individuals involved frequently coming from considerable distances to spend the night with congregations of their kind.

As the name indicates, fishes of various kinds form at least a portion of the normal diet of the fish crow. Much of the fish so consumed is picked up as carrion however for the bird is not equipped to be an active fish hunter as is the kingfisher for example. Various aquatic creatures such as shrimps, crawfish, mollusks, and small crabs are eaten. In addition, vegetable materials such as the fruit of palmetto, magnolias, dogwood, and Cocos palm is sought out as are such wild fruits as mulberries, hackberries, and huckleberries. They have been reported to do limited damage to both oranges and tomatoes.

The eggs of many Florida nesting birds are destroyed by fish crows. Herons, cormorants, ibises, and anhinga nests suffer the depredations of the fish crow as do those of many smaller birds, notably rails, terns, willets, and Wilson's plover.

The nest of the fish crow is similar to that of its larger relative. It is basically a collection of twigs frequently with Spanish moss worked in. The lining consists of finer vegetable material, frequently pine needles and Spanish moss.

April and May is the period of fish crow nesting activity in Florida. The eggs, four to six in a clutch are smaller than those of the common crow but are similar in appearance. ●

WINDOW WONDERLAND

(Continued from Page 33)

morning in early December when a strange call sent me heading for the lake shore. For there in the middle of the road fifty feet from the water, stood a handsome, bewildered and very lost-looking Canada Goose. He stood staring around in a most perplexed manner until an approaching car startled him into action.

The speed with which he whirled and took off, all in one motion was unbelievable. With his enormous wing-spread, the way he glided through the dense foliage of the lake side trees was more unbelievable. The fact that the big fellow was standing in the middle of the road wasn't very reasonable either.

Well, as I have told my neighbor time and time again, you don't **have** to walk miles from home to see strange things when you have a Window Wonderland. Strange things will come to you. ●

BALANCE WHEEL

(Continued from Page 6)

Target shooting or those enrolled in the hunter-safety program

Use of map and compass

Use of traps and trapping.

Add to this fishing, boating, canoeing, swimming and there are all the ingredients for a summer camp just made for boys.

Staff: Remember Chuck Bindner? Well, he is with us again this year. Pete Ripley, Earl DeBarry, Bill Post will be with us again this year, also. And so will our chief cook, Mrs. Virginia Westphal return to her kitchen duties. Reports have it that Mrs. Westphal will make you happy again this year with her well-balanced menus. Mr. and Mrs. Harry Kenan will be on hand to assist whenever they can.

If you are doing or completing any special project within your club, would you let us know here in the Ocala office. We would like to let others know about it. ●

dog chatter

By GEORGE CROWLEY

THE HOT DAYS OF summer impose their perils on the dog populace, the same as the cold, snappy days of winter. In summer, your dog gets hot, uncomfortably, unhappily hot. Be sure that he always has cool, fresh water, and a shady spot in which to lie. Curtail your dog's exercise when the day is hot. See that he is not needlessly exerted. Taper down his diet somewhat during the summer months.

However, be sure his caloric intake is in line with his physical activities. Regular grooming will add greatly to your dog's comfort during the warm days. Watch out for skin disturbances and fleas. "Do not" use a poison weed detergent in any place where pets are allowed to run.

These and many more detailed and helpful suggestions for making your dog's life a happier and healthier one this summer are included in a booklet entitled "Summer," published by the National Dog Welfare Guild. The book is available free of charge by sending a four cent stamp, to cover postage, to the National Dog Welfare Guild, 114 East 32nd Street, New York 16, N.Y.

* * *

Touring With Towser

The 1959 tourist season is "officially" under way now that the Gaines Dog Research Center has brought out its new edition of "Touring With Towser."

This handy guide on where to stop when it is time to put up for the night makes traveling with the family pet a pleasure instead of a problem. By consulting the directory and selecting a motel or hotel in advance, dog owners no longer need to drive from place to place to see if the "dogs welcome" sign is out. Establishments in all states that accept guests and their dogs are listed in the directory—about 5200 of them—along with tips on what to



take along for Towser, special regulations in the various states and national parks, requirements for entering Canada and Mexico, and a lot of other useful information.

An important feature of the directory are the suggestions for proper dog etiquette while a guest of the hotel or motel.

A copy of "Touring With Towser" may be obtained by sending 25 cents (to cover first class postage and handling) to the Gaines Dog Research Center, 250 Park Avenue, New York 17, N.Y.

* * *

To keep your dog handsome, happy and healthy, send for a copy of "Grooming Your Dog," a free booklet published by the Gaines Dog Research Center, at the address listed above.

In addition to coat care and trimming, the booklet discusses the trimming of toenails, an aspect of grooming that pet owners are not always aware of and which when neglected can cause painfully long or broken nails and canine "flat feet." Also included in the leaflet are instructions on bathing a dog, and proper attention to the ears, eyes and teeth, as well as measures to take to prevent, or rid a dog of, fleas and other parasites that keep him from being his shining best and are detrimental to his general health.

The booklet points out that grooming best begins with the puppy. Even though the puppy coat needs very little attention, tender handling and gentle brushing will build up a pup's confidence in the grooming process. If the puppy learns to enjoy his grooming period when he is young he will be much easier to handle when he is grown and needs this care. ●

TERRIBLE TERMITES

(Continued from Page 15)

terranean termite soldiers do not have these teeth.

The third major group of termite species native to Florida is the damp-wood termite—insects that obtain their necessary moisture from damp soil or wood above soil level that is constantly wet or damp. They are usually found only in the coastal areas of certain parts of Broward and Dade counties.

Damp-wood termites make mating flight during the early evening hours of the autumn and winter months. Like the dry-wood species, winged adults are attracted to lights.

Except when swarming to establish new colonies, termites are highly secretive in respect to their physical presence and work. There are, however, ways of determining their unseen presence.

Look for mud tubes running up the inside or outside walls of building foundations. Also look for discarded wings—evidence that a mating flight has occurred and the termites have already entered the ground to start new colonies.

Test exterior wood by tapping it sharply with a finger or a piece of metal. Infested wood will usually give forth a hollow sound or a papery rustle when tap-tested. Jabbing suspicious areas with an ice-pick will also determine weakened wood.

Wood damaged by subterranean termites contains sand and soil particles which the insects carry into their galleries and use as a sort of plaster as they feed along the soft-grain of the wood.

Dry-wood termites are harder to locate. Frequently, their presence becomes known only when a long unused piece of furniture, book or trunk is handled, or when the remaining exterior shell of a damaged article collapses.

They do excrete pellets of partly digested wood, however. Discovery of these pellets is often the householder's only warning that non-sub-

terranean termites are at work. Uncovered passageways will usually be found dry, clean and smooth.

Authorities say that prevention of subterranean termite damage is largely a matter of initial good construction of homes and buildings, combined with effective soil poisoning. Preventative termite treatment can be more easily and cheaply accomplished in the first stages of a building's construction than later.

Spraying of wood sills and all wood under a building does very little good, in the opinion of many experts. Also, installed termite shields alone do not deter the obstinate insects; their chief value is forcing invading termites to build their mud tubes where they can be more easily detected.

Among existing structures, most difficult to treat are low-level homes and buildings where wood timbers have been bolted to a cement slab and a wood flooring placed over both. The same is true of parquet floors put down with mastic on the slab.

Next most difficult to treat, exterminators say, are structures incorporating earth-base type concrete or terrazzo floors.

All require more complex service-

treatment than buildings with wood floors and crawl space beneath.

Various chemical poisons are effective when mixed and properly applied in correct solution. Pentachlorophenol, Dieldrin, Sodium Arsenite, Chlordane No. 8, B. H. C. and Orthodichloro-benzene are frequently used by informed homeowners and professional exterminators. Almost every case of subterranean termite infestation requires individual treatment.

Dry-wood termites in furniture can be controlled by painting affected areas with 5% DDT mixed in deodorized kerosene and then wiping off excess solution before it can damage the finish. However, it is best to dispose of any article that is obviously being subjected to extensive dry-wood termite attack.

There are several Florida-authored texts that give more detailed information about termite control than can be covered in a natural-history feature article.

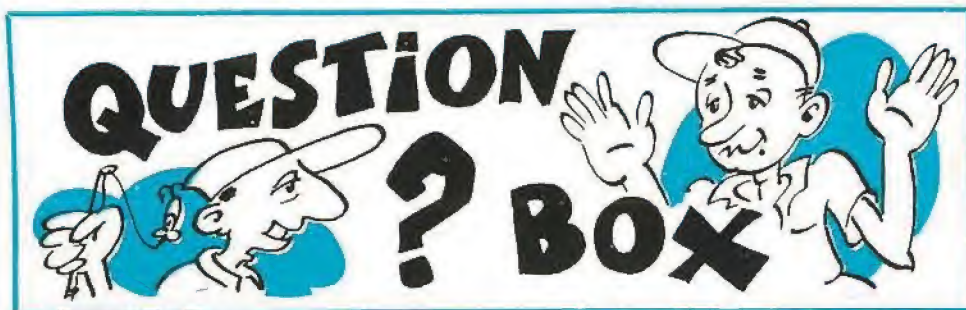
One of the most complete available texts is the commercial, 93-page illustrated "Homeowner's Termite Guide" by Floyd Hunt, of St. Petersburg. "Termites and Other Wood-infesting Insects" by Professor L. A. Hetrick, University of Florida entomologist, is an informative 22-page public service bulletin. "Household Pests," a free publication of the Florida Dept. of Agriculture, devotes a section to termites and their control.

Outside the state, a free pamphlet—"Expecting The Termite"—can be had from the National Lumber Manufacturers' Association, Washington, D. C. "Soil Treatment—An Aid To Termite Control" is an instructional leaflet available for 5¢ from the U. S. Government Printing Office, or free on request to your Congressman.

It will be well worth your while to learn more about the little wood-eating insects with big appetites. Your added knowledge may keep you from also irately referring to them as "those terrible termites!"



"You lucky stiff! You've won all of our fish!"



By **CHUCK SCHILLING**

Address questions on fishing and boating to Question Box, FLORIDA WILDLIFE, Tallahassee, Fla.

Question: I am interested in the Jensen Savannas you wrote about a couple of months ago. What roads lead to these lakes and are they public fishing grounds? Are boats and accommodations available? Do you think the color of top-water bass plugs is significant in relation to time of day and the amount of sunlight on the water?

C. Hale, Jr., Fort Lauderdale, Fla.

Answer: The Jensen Savannas can best be reached through Jensen Beach, Florida. Boats can be rented or launched at Earl Castner's landing. Get local directions. Overnight accommodations are available at Jensen Beach. This is a resort area. No motors are allowed on the savannas. For wading, try a country road running east and west from U. S. 1 to Indian River Drive near Walton. This lies midway between Fort Pierce and Stuart. Some road maps don't show it, and it apparently has no state number. The road is there all right—hard top—and runs through a large section of the savanna marsh area. You can park on the shoulder of the fill and wade in any direction.

I take an unscientific view of color on top-water bass lures. Traditionally, dark colors are used at night or on overcast days, light colors in bright weather. I like yellow and then aluminum or white because I can see them better, and it's more fun when you can see your lure. I think action is much more important than color on the lures you mention.

Question: I read in FLORIDA WILDLIFE about a fellow using a short, heavy, plug rod, and a Supreme Reel full of 20-pound test line. He said a 3-pound bass hit like a ton of bricks, almost wrenched the rod from his hands. He said the line sizzled,

and the reel protested. He said the fish decided to stop running just in time to save his thumb from being "fried."

What kind of 3-pound bass do you have down there? According to this, a 6-pound fish would chase you off the lake.

Harold Lewis, Maywood, Ill.

Answer: Our bass are mean, all right. We usually fish in pairs just for protection. I once had a bass strike a 5-pound anchor as I tossed in overboard. This fish towed the boat for over an hour. I was fishing on a lake that lies on the border of Florida and Georgia, and I finally had to cut the line, because the bass towed me into Georgia water where I had no license to fish. I suppose we do EXAGGERATE a LITTLE, but you should read those Texas writers.

Question: We read your column in the May issue in which you mentioned a cooking kettle. We were very impressed and would very much appreciate your telling us where we can buy one of these charcoal broilers.

Clifford Wells, Apopka, Fla.

Answer: The wonderful kettles are manufactured by Cook 'N' Tools, Inc., Box 949, Tulsa, Oklahoma. So far as I know, they are sold only by mail direct from the maker. An inquiry will get you a pamphlet full of information.

Question: A book called, "80 Years on Bass," was mentioned in FLORIDA WILDLIFE a few months ago. You said you had never heard of it. I am interested in this book. Have you picked up any new information about it?

Ray Bailey, Jacksonville, Fla.

Answer: I can now tell all. This book was written by Dave Hawk, 750

Chase Drive, Corpus Christi, Texas. Hawk appears to love bass but hate "professional" writers. He claims we pros have loused up most anglers with misinformation, etc., etc. His book is printed in solid capitals, which is perhaps its most noteworthy feature.

Question: I have read many times about snook but have never been south to try for them. Are they really like bass? Is it true they don't leap clear of the water? What is your honest opinion of the relative strength of a 5-pound snook compared to a 5-pound bass?

W. Dunntile, Reading, Pa.

Answer: Snook are like bass in that they have a big mouth, hit readily, lurk around underwater logs and make a leaping, top-water fight on light tackle. Some snook, like some bass, are sulkers, but most will jump cleanly. I have had them clear the water by three feet. Snook, like bass, will also leap from the water on one side of a floating lure and smash it in a power dive from above. Like bass, snook will thrive in warm, fresh water.

Unlike bass, snook get big—up to 50 pounds—with 30 pounds not unusual. Unlike bass, snook have razor sharp gill covers and must be handled with care. Comparing bass to snook of similar size is like comparing a pigeon to a hawk. The snook is much stronger, will fight longer and harder than any bass or, in my opinion, any other fresh-water fish. This is true in almost any comparison between fresh and salt water game fish.

Question: I have a 15-foot outboard boat I use principally for fishing. I use a 35-horse motor. I usually use live minnows, shrimp, or shiners for bait and would like to put a live well in the boat to make keeping the bait more convenient. What method do you suggest?

C. Burger, Bradenton, Fla.

Answer: I suggest you abandon the whole idea. You don't say if your boat is metal, wood, or glass and, of course, the material would have a big influence on your plans. Regardless of all this, I would never advise boring holes in the bottom of a good boat. This is just asking for trouble. Either rig a live box outboard off the transom or continue to use buckets.

BR'ER POSSUM

(Continued from Page 29)

scientific interest for a long time. On the surface the trick would seem to be pretty shrewd tactics for a supposedly stupid creature. Most authorities however are now in agreement that this act is an involuntary trick of the animals' nervous system, amounting to an out and out fainting spell. Anyway, it is hardly practical as a defense measure against its many natural enemies. It merely makes it easier for fox, bobcat, hawk, or owl to pick up a meal.

As in most other matters, the opossum is not particular in his choice of a home. Tree cavities or hollow logs are fine. Ground burrows excavated by more skillful excavators such as the gopher tortoise or skunks are highly acceptable. The leafy tree nests of squirrels are not infrequently appropriated. They have been known to share quarters with a skunk or armadillo, both creatures of even, phelgmatic make-up. In transporting the dried grass and leaves with which the nest is lined, the prehensil tail comes in handy. The opossum gathers up the material, wraps its tail around the material, wraps its tail around the material and plods off for the den



The opossum, although very much at home above ground in trees and bushes, displays anything but speed. Sluggish best describes its actions, both physical and mental.

with the cargo in tow.

Unlike many animals, the opossum seems not to have any particular home or feeding range. Rather the creatures amble freely about the countryside seeking whatever food

may be in the offing. To the opossum, there is little in the way of organic material that is not fit to eat. Berries, fruit, insects, frogs, earthworms, snakes, birds, garbage, and the carcasses of other animals all are considered choice. Meat, either fresh or aged well beyond the period of respectability, seems to have the edge if there is a choice. With a mouth full of fifty teeth, the animal is well prepared for most any food grinding job it encounters.

That the animal can survive a great deal of physical punishment is borne out by one study reported upon by naturalist Victor Cahalane. According to this authority the detailed examination of nearly one hundred opossum specimens showed that better than 41 per cent had broken bones that had healed completely. One of the animals had survived two broken shoulders, eleven ribs and a badly damaged vertebral column.

All of which adds up to the fact that, although the opossum is far from being an intellectual of the animal world, his high reproductive capacity and his physical toughness and adaptability is assurance that old Br'er Possum will be with us for a long time to come. ●

FISHING

(Continued from Page 11)

vana-Nasasu Cruise. These cruises are aboard the S.S. Yarmouth. This is a comfortable ship with excellent cabins, air-conditioned dining room, lounge, and dance hall, has deck sports, swimming pool, etc. My wife and I have taken these cruises and will again. They are wonderful.

You can take the 3-day Nassau Cruise, leaving Miami 5 p.m. Friday and returning 8 a.m. Monday. The 4-day Havana-Nassau Cruise leaves Monday and returns Friday a.m. These are all-expense tours. Two people can take the 3-day cruise for less than \$90 and the 4-day jaunt for about \$120.

This price includes everything—meals and staterooms even when you are in port. The ship becomes your hotel for the duration of the cruise. No passports are needed. Any non-



fishing wife who wouldn't settle for one of these cruises would be a very exceptional spouse indeed, and for that matter, same goes for the angling member of the family. As a matter of fact, I enthusiastically recommend these cruises whether you go fishing or not. I will nominate them as my idea of a perfect holiday under any circumstances.

One final word about holidays—make up your mind to enjoy yours. Don't be a grouch. Don't find fault and don't hurry. The finest vacation in the world can only be as good as you'll let it. Resolve to wear a smile. Speak to people, live it up. Remember, when you travel on a vacation, you are a tourist. Act like one—ask questions, take pictures, have fun—especially that last. ●

Outlook For Waterfowl Production Unpromising

CURRENT REPORTS INDICATE an extreme drouth in the prairie portions of Canada where about 60-70 percent of North America's ducks are produced and waterfowl breeding conditions for this year presently are "not promising," the Department of the Interior reports.

In fact were it not for two somewhat meager possibilities the reports would warrant extreme pessimism about waterfowl production this year, the Department said.

One of these possibilities is that the rains will come in sufficient quantities before it is too late—that is within the next few days. The other is that the birds which are driven from their customary breeding grounds by drouth will find satisfactory nesting places farther north, or that the production from the potholes that have water will make up to some extent for the big losses in the potholes now dry.

Reports from southern Manitoba and southern Saskatchewan indicate that 75 percent to 90 percent of the potholes where the ducks are produced are either dry now or will be dry before the end of the nesting period.

One unusual factor is that in many instances potholes which have water now and which should be harboring their quota do not have the birds. Currently biologists on the job decline to even presume where these birds are but hope that some of them have gone on to the northward in search of more satisfactory breeding areas. This will be checked on as the surveys progress.

In some places — unless rains change the picture soon — hatching time will find water areas from five to seven miles apart. Even the mallards which nest away from water and travel with their broods as much as two or three miles to water will be restricted in their nesting possibilities.

The Bureau of Sport Fisheries and Wildlife has eight planes making the breeding pair surveys in Alaska, Canada, the Dakotas and western Minnesota. These are manned by 14 Bureau personnel and one each from the Manitoba and Saskatchewan game departments. They will fly about 10,000 miles during the month of May and early June surveying

the number of breeding pairs and checking the condition of the habitat. Later, in July, a production survey will be made. The area covered in Canada will be from eastern Ontario to Alberta, up into the MacKenzie River and in Alaska.

The Bureau also has research crews studying the ecological conditions and the relationship between ground and air observations. The Bureau is doing everything possible to get an accurate picture of the waterfowl crop, and by the end of July will have good data upon which to base recommendations for the 1959 hunting season, FWS officials said.

The research crews are composed of eight Bureau personnel, eight from the Canadian Wildlife Service, two from Ducks Unlimited, one each from the Ontario and Alberta game departments.

Progress reports giving the public the latest information relative to conditions in the duck producing areas will be issued from time to time by the Fish and Wildlife Service. ●

UNDERWATER PHOTOGRAPHY

(Continued from Page 36)

what you would use above water on the same day. If you're in shallow water over a white sand bottom, f.16 at 1/100 would be better. At a depth of from 25 to 40 feet, f.11 at 1/50 is a good basic setting. Understand: these are approximations. The amount of light in a given diving area will vary considerably, depending upon the kind of subject and kind of background. When the sky is cloudy or the water is dirty, you'll need to open up two or more stops.

In salt water, under good conditions, the basic setting is about f.11 at 1/50 when working near the surface. In my opinion, visi-

bility is never as good in the ocean (even in the Keys, the Bahamas, or the Caribbean) as in ultra-clear springs such as Silver Springs, Wa-

kulla Springs or most other Florida springs. It sometimes looks as clear, but there is more suspended matter to cut down on the light.

Under ideal conditions I shoot Kodachrome at 1/40 at f.4.5 and Ektachrome at 1/60 at f.6.3. A meter is an excellent investment if you shoot color.

Speaking of color, don't hesitate to use it. Although greater care must be taken in exposure and in gauging the distance to your subject (due to decreased depth of field when the lens is opened up), the results are worth the extra care. For, while various tones of blue, green, brown, etc., will come out a uniform gray on black-and-white film, with a resultant loss of contrast, those tones will appear in full, vibrant color on Kodachrome. ●



"Fishing?"

FLYING CENSUS TAKER

(Continued from Page 27)

used by birds, 100 acres have been developed into pools and stocked with food plants. During dry periods water is supplied from three artesian wells. One of these was donated by Jay N. "Ding" Darling, former newspaper cartoonist and well known conservationist, while the other two were drilled by the government. Dr. Louise Perry, winter resident from Ashville, N. C., donated a small lake and the refuge's list of more than 235 bird species noted for the area, was largely compiled from her observations.

Sanibel Refuge was established mainly for the purpose of providing winter habitat for migratory ducks and other birds at the southern end of the Atlantic flyway.

In recent winters several thousand ducks have wintered here, as well as thousands of other birds. It

is used as a summer nesting site by mottled ducks, black-necked stilts and gallinules, as well as the more common egrets, herons, anhingas, pelicans and others. Tommy says the anhinga, or water turkey population is the largest he's ever seen—about 75 or 80 nests. During Spring and Fall migration a good variety of songbirds may be observed.

The central mangrove head of the refuge is a favorite night roost for two, or three thousand herons, egrets and ibises. There is an observation tower where visitors may watch outgoing and incoming flights at dawn and dusk. Even the rare roseate spoonbill and white pelican have been spotted on occasion.

Many species of shorebirds, waterfowl, gulls and terns forever stand watch over the tides and stalk the beaches. At times within the sheltered salt water lagoons in the vicinity of Sanibel's Tarpon Bay on the East coast of the island, larger numbers of lesser scaups, cormorants, pelicans and other waterbirds

are seen. On nearby off-shore keys there are spectacular bird rookeries.

Until recent years Sanibel gained its fame chiefly as a paradise for conchologists—shell collectors—who rate its beaches among the world's finest to find many of the 70,000 identifiable species of mollusks, as well as probably the most rewarding for shell-hunters in North America.

Today, thanks to the Wildlife Service, particularly to its dedicated and hard-working servant, Tommy Wood, and its private shareholders, it attracts as many Audubonists and ordinary bird-lovers, maybe more.

It is common to find cars stopped, or parked abruptly, at any old place along the island roads, the occupants oblivious to traffic regulations and hazardous underfooting; their eyes hooded in field glasses, to bird-watch.

Now, the bird-watcher's neck-cranning vies with the shell-collector's famous "bends", also known hereabouts as "shell shock." ●

DANGER AFIELD

(Continued from Page 24)

exceed $\frac{1}{4}$ ", and they should be about $\frac{1}{2}$ " long. (Some experts advocate cross cuts over the wounds, about $\frac{1}{4}$ " deep and $\frac{1}{4}$ " long each way.) Take care not to cut across muscles or blood vessels.

Although this may seem picay-unish before you learn why, you should be very careful to sterilize your cutting blade with heat, alcohol or iodine before making the incisions; likewise, you should place antiseptics generously around the wound. Now, here's why: In addition to its more generally known toxins, snake venom contains a chemical that weakens the blood's natural resistance to infection. Many germs will enter the wound from the snake's mouth; the knife blade will bring in many more unless you sterilize it. Secondary infection is often the biggest problem in snake-

bite cases and sometimes leads to death.

5. Apply suction. Purpose of the cuts is not to remove blood, but to remove the watery lymph which contains the rapidly spreading venom. Suction should be applied to these cuts to carry away as much as possible of this lymph. Use the suction cups provided in your snakebite kit, if you have one. Otherwise, suck with your mouth. It is perfectly safe to suck a snakebite wound with the mouth, since venom taken internally is harmless. (Ross Allen once swallowed a tremendous dose of cottonmouth venom to prove this point.) It might be somewhat questionable to use the mouth in case of severely ulcerated gums or very poor teeth, but it is doubtful whether any ill effects caused would outweigh the benefits to the patient. Even if no cuts are made, suction should be applied to the wound.

6. Continue treatment. As the

poison advances up the body, new swellings may occur above the original tourniquet. If this happens, remove the tourniquet and replace it a few inches above the new swelling, incise and suck as at the wound. Move the tourniquet upward as often as is necessary and repeat the cutting and sucking.

7. Avoid shock. Keep the patient warm, still and calm. If he feels faint, give him coffee, tea or aromatic spirits of ammonia in water. NEVER GIVE A SNAKEBITE VICTIM ALCOHOL. This speeds up the circulation and hastens the spread of the poison.

8. Get to a doctor. All victims of a poisonous snakebite need expert medical care, and the sooner the better. Even if the patient seems to have made an excellent recovery after first-aid, get him to a doctor. Very often there is a seeming marked improvement of a snakebite victim on the first day, but followed by

a drastic downward turn and sometimes death on the second day.

And what about antivenin? Antivenin is essentially serum from the blood of a horse which has been given carefully spaced and measured doses of poisonous snake toxins. Over a period of time, the horse's blood builds up chemicals which can neutralize the snake venom. These substances are present in the serum of the antivenin kit and work to neutralize snake poison in the human victim when injected into the blood.

Antivenin is tricky to use, because the victim may be extremely allergic to horse serum. The reaction to the serum can be far worse than the effects of the snakebite. Therefore, if you can get the victim to a doctor within one or two hours, it might be well to leave this part of the treatment up to the physician. If this is not possible and antivenin is available, consider using it. Each antivenin kit contains a means of testing whether or not the victim is seriously allergic to horse serum. In case of doubt, perform the simple test as outlined in the directions.

Only one antivenin is produced in the United States: "Antivenin (Crotalidae) Polyvalent," put out by the Wyeth Laboratories. It is effective against all our poisonous snakes except the coral snake. It can be purchased in most any large drug store and keeps for five years without refrigeration.

To sum up the major points of snakebite first-aid:

- A. Keep the patient quiet and calm.
- B. Apply a loose tourniquet between the wound and the heart.
- C. Make incisions near or on the wound and apply suction.
- D. Get the patient to a doctor!

A final word about the prevention of snakebite. A hundred rules might be given, but they all boil down to common sense and reasonable caution. Just replace fear with these two ingredients—common sense and reasonable caution—and you'll certainly be safer in the saw palmetto scrub than you ever were on a busy city street. ●

FIELD TESTS AND TELLS



In photography, camera models that permit ground glass focusing—especially those of the twin reflex and Speed Graphic types—help to take much of the guesswork out of focusing. Get the image of the subject sharp on the ground glass and you're in focus, ready to snap the picture! However, only when detail is critically sharp in the main subject is focusing truly accurate.

Reduction of subject image from lifesize to negative size proportions tends to make fine detail hard to see with unaided eye. . . .

For easier, sharper pictures made with ground glass focusing type cameras, FWFT&T recommends an Ednalite No. 200 Magnifier, product of the Ednalite Optical Co., 200 North Water Street, Peekskill, New York, available through camera supply stores or direct.

In appearance, the Magnifier is a short, pocket-size light metal tube, permanently matte-finished inside to eliminate extraneous reflections and fitted with precision lenses. A no-glare, wide angle eyepiece is another notable feature. The focusing aid packs in a durable, dust-proof plastic carrying case.

Although classed as an accessory in photographic trade jargon, the Ednalite No. 200 Magnifier is actually a working component of any reflex or ground glass camera with which it is teamed. When placed directly on the surface to be viewed, its coated precision optical system produces a 3.5X (magnified) raised relief image, sharp to extreme edges.

Used with reflex type cameras, the Ednalite Magnifier raises the reflex image to natural eye level in sharp, luminous relief.

The viewing aid is exceptionally advantageous to the photographer whose specialty is photomicrography.

In the darkroom, the Ednalite Magnifier provides an easy means of getting uniformly sharp projection prints during enlarging operations.

The Ednalite Magnifier retails for \$9.75.



If you own one of the Ruger "Bearcat" model .22 caliber revolvers reported on in the April 1959 issue of FWFT&T, you can greatly improve both appearance and gun-handling qualities by installing a pair of Fitz STAGRIPS. (Similar Fitz pistol grips are available for other popular revolver models; see list below.)

Precision-molded of unbreakable, lifetime Duramite plastic, the grips closely fit the frame of the little Ruger handgun, but are larger in overall, outside dimensions, and therefore more hand-filling than the standard factory grips. A built-in middle finger support tends to keep the gun-hand in proper alignment and the gun muzzle level on target.

Base color of the Fitz STAGRIPS is old ivory, on which the very close imitation of genuine staghorn is given superimposed effect.

The attractive grips are guaranteed unbreakable, from any cause whatsoever; you can drop them — give them rough treatment; they won't break. They are also impervious to perspiration, gun oil, water and temperature changes.

Besides the Ruger "Bearcat" model, Fitz STAGRIPS can be had to fit the Colt Frontier "Scout", the Colt Single-action "Army" and the Ruger "Single-Six" and "Black Hawk" revolvers. Grips of the same ivory color and imitation staghorn pattern are also available for the Colt "Officer's Model", "Official Police", "Python", "Trooper", .357 "Magnum" and "Camp Perry" model revolvers, and for practically all of the popular revolver models in the Smith & Wesson line.

FWFT&T endorses Fitz handgun grips without reservation. You're sure to like them and to marvel at their marked resemblance to genuine ivory and staghorn. By all means examine a pair of Fitz STAGRIPS before you buy **any** revolver handgrips. Look for them in local sporting goods stores' stocks, or order direct from Fitz, Box 49702, Los Angeles 49, California. \$6.95.

BAIT UNLIMITED

(Continued from Page 17)

own a few hints are in order. Worms will seldom be found along water. They like moist, fertile ground which river banks usually aren't when you get away from immediate contact with the water.

When there has been a protracted dry spell in your vicinity you'll have to dig pretty deep to find worms, so take that into consideration before you start.

A spade is your best bet for digging worms. However, there are some trick methods which work if there are any worms there. There are patented chemicals you can pour on the ground which make the worms scramble to the surface for air. Another trick is to drive a stake into the ground, then saw on it with another stake. This produces vibrations and drives worms to the surface. We've never actually tried this stunt but colleagues of ours swear it works.

It's not hard to locate worms. Try any ground which is both moist and fertile, particularly places which are depressed and therefore likely to stay moist after higher surrounding ground becomes dry. Try the edges of marshes, but you'll be wasting your time to dig actually in the marsh itself.

Night crawlers are another story. You have to tread lightly to surprise them. Try tennis shoes because a heavy step sets up vibrations which alarms night crawlers and sends them scurrying to their holes. Also be sure there's dew on the ground or dampness after a rain, because they won't come out on dry grass. As for equipment, a flashlight dimmed with red cellophane will do the trick nicely.

Akin to worms are caterpillars which are excellent bait. Through the south the type known as catalpa worms (and found on catalpa trees) are particularly good. But a word of caution. Most caterpillars are harmless; the smooth, furry types that is.

But be wary of the kind with intermittent tufts of hair. They can inflict a painful burn by just contact with the "hair."

After the caterpillar has spun itself into a cocoon, you can use the worm-like larva inside in emergencies. But open them carefully so as not to damage the sleeper inside.

Game fish are not particular about what they eat, so long as it comes in convenient bite-size servings. Frogs, toads which occasionally tumble into the water, mice which sometimes meet the same fate, and even small birds. You're not able to use baby birds since the laws of most states protect them. But frogs, toads and mice—although hard to catch—make excellent bait because they're tempting dinners for hungry gamefish.

In The Air

To anyone who has stood on the banks of a lake or stream just before sunset and watched the bass rise for insects which have fallen onto the surface of the water, it will be readily apparent that the air furnishes an abundance of fish food.

Insects have a fat content much higher than most food to which fish are accustomed, and some sixth sense seems to tell fish that the hundreds of thousands of insect varieties are good for them.

That doesn't mean they are necessarily good bait for several reasons. Frequently they are hard to get in quantities which make them practical for a fishing trip. When pierced by a hook they frequently die too

quickly to be effective. Size, too, is a factor. Many are so large only the larger fish will be attracted by them. Many are so small they are impractical unless you are willing to catch small fish with only an occasional larger specimen.

A field with ankle-deep grass provides a veritable treasure-trove of insect bait—grasshoppers, crickets, katydids, mantises and innumerable others. But—and it's a big one—there's a trick to catching such bait. Don't pick a sunny day when the grass is dry unless you enjoy violent exercise. Try it early in the morning when there is heavy dew all over everything, or right after a rain. Although it's a wet job, you'll have no trouble gathering all the live bait you'll need.

You'll also find you get better results with the smaller, juicier grasshoppers than with the large ones, since the giant hoppers are rather dry and hard—and fish seem to know it.

Praying mantises are good, but if you have a big one you may expect only a big game fish to hit it.

Another insect which makes a fine natural bait is the cicada (or "17-year-locust" as it is more commonly called). When they are out you can use them like you would a fly. Even its cousin, the smaller Japanese beetle, makes fine pan fish bait. But be sure you use a light hook so the bait will stay on the surface of the water.

During the day flying-type beetles hide under rocks, and come out only at night. By turning over rocks you can readily collect an ample supply for a day's fishing.

While fishing you may come across—usually accidentally—many other insects which may be used, but they are what could be called "casual." Dragonflies, bees, damsel flies, stone flies and the like fall into this class.

The specific examples given above are only just that—examples. There is one rule to keep in mind regarding natural bait. If it swims, or if it crawls, or if it flies, the chances are it is a candidate for use as bait—and may well be highly effective. ●



"This is fun Herb. Why is it you don't take us fishing more often?"

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HORNED
OWL**

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